Project Plan Proposal
Treasure Valley Reload Center (TVRC)

Submitted: September 27, 2018

Submitted To

Oregon Department of Transportation

Submitted By

Malheur County Economic Development

Malheur County Development Corporation

522 SW Fourth St., Ontario, OR 97914

Oregon Transportation Commission Members:

Malheur County Development Corporation (MCDC) submits to you our Treasure Valley Reload Center (TVRC) Project Plan Proposal.

Thank you in advance for taking the time to review our project plan, which we believe delivers on the expectations the State of Oregon and the public are seeking.

The project plan before you will deliver on the efficient movement of commodities, transportation cost savings, and public and private benefits.

Thank you in advance for your consideration of our proposal. We look forward to working with you to develop the Treasure Valley Reload Center.

Best Regards,

Grant Kitamura, Board President
Malheur County Development Corporation

County of Malheur

251 'B' STREET WEST • VALE, OREGON 97918

MALHEUR COUNTY, OR 2017-4517
MRCOUNTY COURT
DOCUMENT 11/29/2017 11:23 AM
Cnt=1 Pgs=1 Total:$0.00

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I, Gayle V. Trotter, County Clerk for Malheur County, Oregon certify that the instrument identified herein was recorded in the Clerk records.
Gayle V. Trotter - County Clerk

November 29, 2017

Oregon Transportation Commission
355 Capitol St. NE, MS #11
Salem, OR 97301

Re: Letter of Support – Malheur County Development Corporation's Treasure Valley Reload Project Proposal

Commission Members:

The Malheur County Court (Board of Commissioners) fully supports Malheur County Development Corporation's (MCDC) Treasure Valley Intermodal/Reload Facility project proposal.

Natural resource-based industry dominates Malheur County's economy. The ability to move our commodities to both domestic market in the east, as well as west to international markets is of the utmost importance. The MCDC project proposal recognizes this economic factor and provides opportunities to transfer the shipping of the commodities mentioned above from truck to rail, and even from truck to rail to marine. This will help simplify logistical challenges our business and industry face. The ability to have alternative modes of transportation results in improved economic advantages for Oregon companies.

The MCDC board went through a robust site selection process, and we fully support their decision. The site is a central location within the Treasure Valley. This will maximize the benefit of the facility. The site also has access to all the primary highways in the region, and over 1-mile of the UPRR main line along the property line. The UPRR industrial development team visited Malheur County and the site with the MCDC board members. They shared the location would be suitable for the desired purpose.

Malheur County stands ready to support the project through whatever needs arise. We urge your approval of the MCDC project proposal.

Best Regards,

Dan Joyce, Judge
Malheur County

Don Hodge, Commissioner
Malheur County

absent

Larry Wilson, Commissioner
Malheur County

Gateway to the Oregon Trail
Nyssa, Oregon
1903
Thunderegg Capital of the World

City of Nyssa

301 Main Street
Nyssa, OR 97913
Phone: 541-372-2264
Fax: 541-372-3737

09/04/2018

To Malheur Economic Development and Reload facility board

It is great excitement that I write this letter, the importance of the Reload facility to our county is monumental. We as a city would be very happy to see it built close to our community. The impact it would have on our continued growth would be great. We look forward to working with all those involved with the project and want to give our full support and any help that is needed. I realize that there can only be one site hopefully it is the site nearest Nyssa, however if it is not you can count on my support and help in any way.

Thank You

Jim Maret, City Manager

The City of Nyssa is an Affirmative Action/Equal Opportunity Employer

Raritan Central Railway LLC
One Gateway Center
Suite 501B
Newton, MA 02458

12/7/2017

Greg Smith, Officer to the Board
Malheur County Development Corporation
522 SW Fourth St.
Ontario, OR 97914

Subject: Treasure Valley Intermodal Project

Mr. Smith:

Thank you for taking the time to visit with Susan Walsh-Enloe, Raritan Central Railway, and the Pennsylvania & Southern Railway's Market Specialist. The Treasure Valley Intermodal/Reload Project the State of Oregon and Malheur County are working on is of significant interest to the Raritan Central Railway, and the Pennsylvania & Southern Railway serving the Metro New York, and Mid Atlantic food markets.

The Raritan Central, and the Pennsylvania & Southern are strategically located in the largest population center in the U.S and connects with CSX and NS. More than 40% of onions and potatoes shipped from Oregon, Washington, and Idaho are destined to our market area.

Eastern Oregon and Idaho produce shippers currently lack sustainable and affordable transportation options. Driver shortages, the retirement of 50' refrigerated boxcar fleet, new regulations, and lack of intermodal possibilities in eastern Oregon and Idaho are creating a transportation crisis for produce shippers.

The Treasure Valley Intermodal Facility will be a key factor for Northwest produce packers to remain competitive in the northeast. However, a sustainable solution at the origin is not enough. Modal options are varied, and each has different infrastructure requirements. To be successful, the destination infrastructure must be compatible with the Treasure Valley Intermodal facility. The Raritan Central Railway, and the Pennsylvania & Southern Railway will

create the best destination distribution options for Oregon commodities into the northwestern United States. We desire to align our modal choice to support Oregon produce shippers.

Furthermore, we have strong interest in operating the proposed crossdock facility. Having one company serving both ends of the trip will create a better communication system with shippers and receivers.

We offer this letter of support for your project and stand ready to assist you on the coordination of Oregon commodities as they arrive at domestic markets on the East Coast.

Best Regards,

Eyal Shapira
President
Raritan Central Railroad
Pennsylvania & Southern Railroad

cc. Ms. Susan Walsh-enloe
Mr. Ron Klein

Encl.

We **Support** Malheur County Development Corporation's Treasure Valley Reload Project Proposal

Oregon Transportation Commission Members:

Thank you for supporting the passage of the Keep Oregon Moving Bill (HB 2017-A). This legislation makes significant investments in Oregon's transportation system. We are particularly grateful for the $26-million allocation for the development of a Treasure Valley Intermodal/Reload Facility in Malheur County.

The Treasure Valley Intermodal/Reload Facility will **help transform our economy**. It will also provide our region a **competitive advantage in domestic and international markets**.

Utilizing the Union Pacific Railroad (UPRR) mainline, the proposed facility will provide **a local site to reload our commodities from truck to rail**. It will also offer reliable weekly pick-ups from the UPRR allowing us to reach destinations in the Midwest and East Coast. Additionally, we will have the ability to ship west where we can continue via rail or connect with the state's port/marine systems.

We support the work the Malheur County Development Corporation is doing to help bring this investment to reality. The nine-member board represents our various communities, and our region's business and industry. Their project team also has experience in successfully developing similar facilities in Eastern Oregon. These qualities are essential for the success of the facility in both the short and long-term.

We urge your approval of the Malheur County Development Corporation's project proposal, which will allow for the first steps of project development to continue.

County of Malheur Est. 1887 State of Oregon

City of Vale State of Oregon

City of Nyssa Incorporated 1903 State of Oregon

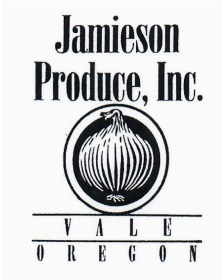
Nyssa Chamber of Commerce & Agriculture Grow With Us Est. 1952

Cascade Natural Gas Corporation
A Subsidiary of MDU Resources Group, Inc.
In the Community to Serve®

IDAHO POWER®
An IDACORP Company

Malheur County Onion Growers Association
"The Home of Mild Sweet Spanish Onions"
710 S. W. 5th Avenue . . . Ontario, Oregon 97914
Phone (541) 881-1417

Y 1 FARMS, INC.
Custom Feeding



CENTRAL PRODUCE DIST., INC.

Nyssa Chamber of Commerce & Agriculture

Thunderegg Capital of the World
105 Main Street
Nyssa, OR 97913

541-372-3091
fax 541-372-9990

Board of Directors

President
Scott McGinnis

2nd Vice President
Shiloh Shelton

Treasurer
Harry Flock

Secretary
Mary Louise Quick

Mary Shelton

Amy Wood
Owyhee Metal Works

Tawni Maxwell
Simpli-Balanced

Office Manager
Char Raney-McGinnis

10/30/17

To Whom It May Concern:

The Nyssa Chamber of Commerce and Agriculture is organized for the purpose of advancing the commercial, industrial, farming, civic and general interests of the City of Nyssa, and its trade area.

As a local business in Nyssa, I am well aware of the importance of a reload facility in our community. Development of a reload facility will allow for more efficient and cheaper movement of products in and out of Malheur County, and would allow people to transfer their products from truck to rail and vice versa.

I am especially pleased to lend my support for this upcoming development in our community, and support this project in hopes it will spur growth and be very beneficial to Malheur County as a whole.

Thank You for your consideration!

Char Raney-McGinnis

Char Raney-McGinnis
Office Manager

Chamber Hosted Events

February
Honors Banquet

April
Eggs in the Park

May
City-Wide Yard Sale

July
Thunderegg Days

October
Scarecrow Contest

December
Nyssa Lights up the Holidays

FIESTA FARMS, INC.
350 Commercial Avenue
PO Box 1606
Nyssa, OR 97913
Phone 541-372-2248
FAX 541-372-2474

November 6, 2017

To Whom It May Concern,

As a four-generation, family-owned small business, we offer our support for the proposed Trans load facility in our community. With decreased local rail service, the development of this facility will allow for more efficient flow of all products in and out of our area.

Nyssa is in dire need of new or expanding businesses to offer growth and employment opportunities for our residents and other small businesses. With other companies opting to move their businesses out of Nyssa and into Idaho, we believe the Trans load facility is vital for economic growth and opportunity in our community as well as the entire county.

Best regards,

Garry Bybee
Fiesta Farms, Inc.

Snake River Produce Company, L.L.C.

P.O. Box 1727
Nyssa, Oregon 97913

Ph. (541) 372-2205
Fax. (541) 372-5788

October 30, 2017

To Whom It May Concern:

Snake River Produce Company, LLC is a packer and shipper of dry bulb onions, specializing in providing Spanish Sweet onions of superior quality in a variety of packaging and sizes. Located in Nyssa, Oregon Snake River Produce ships red, white, and yellow onions from August until April – utilizing trucks and rail to deliver our products to customers.

Snake River Produce fully supports a Transload Facility and Industrial Park in Malheur County, and would encourage all those involved to strongly consider a site in Nyssa, Oregon. Nyssa is centrally located in the Treasure Valley and is easily accessed via rail and truck with a multitude of growth opportunities.

Currently, Idaho and Eastern Oregon provides over one billion pounds of produce annually throughout the United States and across the globe. It is necessary for this area to move product easily and efficiently throughout the United States, as we are in direct competition with other growing regions that already have this capability. The trucking industry has changed and we foresee many challenges in that traditional route of transportation including drivers aging out of the industry and high turnover rates in new drivers – as well as hours of service federal safety regulations and fuel/maintenance cost increases.

A Transload Facility and Industrial Park would be of great benefit to streamlining the transportation issues in this agricultural area and would allow the farmers and shippers to continue sending their crop to market quickly and cost effectively. Additionally, an industrial park as part of this project would be attractive to potential businesses to help grow Nyssa, Malheur County, and the State of Oregon.

We appreciate your dedication, support, and hard work on this project.

Sincerely,

Tiffany Cruickshank
Transportation Manager

UMPQUA
B · A · N · K

10/31/2017

To Whom It May Concern:

As a local business manager and member of the Nyssa Chamber of Commerce and Agriculture, I understand the potential economic benefit of a Transload facility to our community. The long run reduction of freight costs would create increased commercial efficiency and sustainable monetary growth.

I support this project as I believe it will create additional jobs and eventually spur much needed economic stability, not only in the city of Nyssa, but Malheur County collectively. Thank you.

Sincerely,

Lee Birch

Store Manager

Umpqua Bank

Nyssa, Oregon

KESLER FARMS, INC.
3331 Grey Blvd.
Nyssa, OR 97913

December 1, 2017

Mr. Greg Smith
Malheur County Development Corporation Board
522 SW 4th Street
Ontario, OR 97914

Re: Proposed Intermodal

Dear Mr. Smith:

I am writing to you today to show my support for the proposed intermodal, and especially for it's placement in Nyssa.

My father started farming 1955. He had six children and while we were growing up, we all lived and worked on our farm. Throughout the years we have attended college, served church missions, married, and raised children of our own. My brother and I now own the farm, our father runs errands for us, my sister does our bookkeeping, and I have a son-in-law and a nephew who also work on our farm.

Having a transload facility located in the City of Nyssa would be a benefit to all of the farmers in this area, including Kesler Farms. Having such a close proximity to a railcar shipping facility will help decrease our trucking costs, and it will also decrease the time it takes to get our crops to market. I believe that both of these things is significantly benefit our Farm.

I believe that this facility will also be a benefit to the City of Nyssa. Over the years, Nyssa has had many of the same struggles that most small towns have. One such struggle was when the Amalgamated Sugar Factory closed in 2005. The Factory was such a large employer, it served a direct need for the farmers in our community, and the Factory brought a large tax basis to our City. Having the Factory close was difficult, but the Nyssa community pulled together to keep our City running. Having another large project such as this will be a welcome boost to our local economy.

Sincerely,

Paul R. Kesler

Paul R. Kesler
President

HILLTOP ROCK SAND & GRAVEL

1280 Locker Road
Parma, ID 83660

Business Phone: 208-674-2100
Business Fax Mail: 208-674-2110

Scott Cell: 541-212-6681
Kevin Cell: 541-216-1506
Karla Cell: 541-212-3890

December 1, 2017

Mr. Greg Smith
Malheur County Development Corporation Board
522 SW 4th Street
Ontario, OR 97914

Re: Proposed Intermodal

Dear Mr. Smith:

My name is Scott Kesler and my brother and I are the owners of Hilltop Rock Sand and Gravel. Our business is located in Idaho, just 2.5 miles from the bridge on the Oregon/Idaho border. Both of us have lived in Nyssa our entire lives.

I believe that this proposed facility will be a benefit to the City of Nyssa, to the community, and most especially to the farming community. The facility will also positively impact individual businesses such as ours, both in the construction phase and, later, in supporting the running of the transload facility.

I am enclosing my business card. I would be more than happy to discuss the ways which our business can help this facility become a reality.

Sincerely,

Scott Kesler
Partner

[Insert Tab 1: Executive Summary]

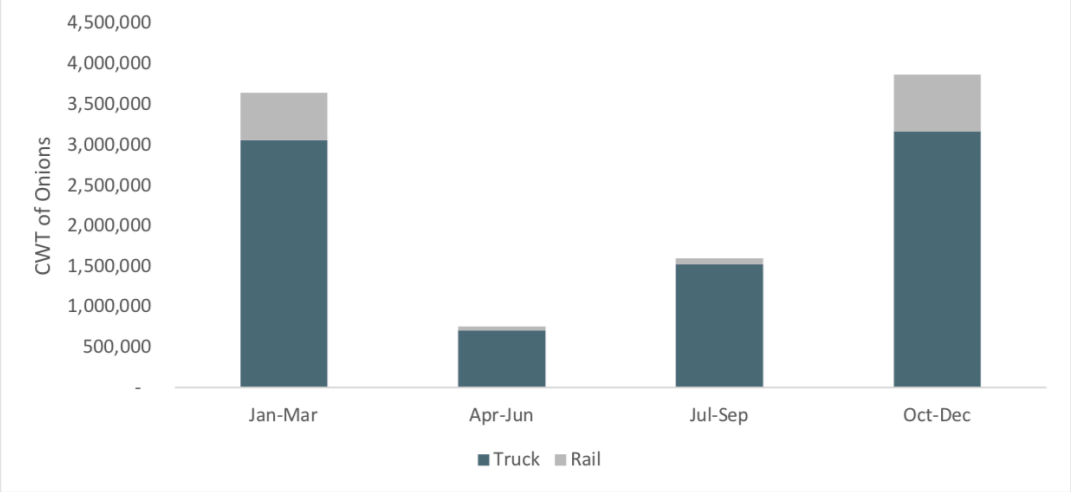
1. Executive Summary

Malheur County Development Corporation is proposing the development of the Treasure Valley Reload Center (TVRC) in Nyssa, Oregon. The site is centrally located in the Treasure Valley which includes Malheur County (OR), Payette County (ID), Washington County (ID), Canyon County (ID), and the northern portion of Owyhee County (ID). The site's location along the Union Pacific Railroad (Union Pacific) mainline and near US Highways 20, 26, 201, and 95 makes it ideal to serve as a centralized reload center for the valley's natural resource-based economy. The proposed TVRC would serve the agricultural community in the Treasure Valley by providing infrastructure to transfer agricultural products from trucks to rail. The TVRC has the potential to provide public benefits by reducing the number of trucks using the highways in eastern Oregon, which potentially would lower highway maintenance costs, improve air quality, and decrease carbon emissions. The project would produce positive economic impacts through increased local spending and creating employment opportunities. The goal of this study is to analyze the facility's potential operations under different scenarios, understand the financial and economic conditions for successful operations, and quantify the potential public benefits that would be realized.

Commodities and Products Likely to be Served

The Treasure Valley collectively grows over 40 percent of the onions in the Pacific Northwest, with over 19,000 acres harvested each year. Over the past five years, an average of 490,000 tons of onions has been shipped out of the region each year to customers throughout the United States. About 86 percent of these onions move to their final destinations by truck, with the remainder traveling by refrigerated rail car, either through existing rail access in the Treasure Valley or via the ColdConnect facility in Wallula, Washington. This market is seasonal, with 76 percent of the onions shipped between October and March of each year.

Quarterly Onion Shipments out of the Study Area, 2013-2017

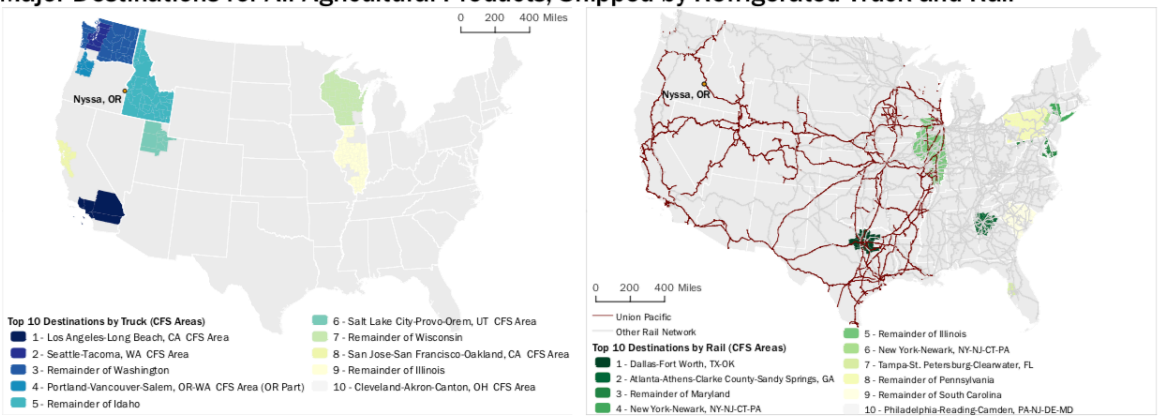


Source: ECONorthwest analysis of USDA Specialty Crop Data

Typical Market Destinations

Agricultural products produced in the region are shipped to a broad set of domestic customers, with southern California and the upper Midwest (Illinois and Wisconsin) serving as the primary destinations for truck shipments. Dallas, Atlanta, and the mid-Atlantic (Maryland, Pennsylvania, and New Jersey/New York) serving as primary destinations for rail shipments. Discussions with onion shippers in the region indicate that the vast majority of their products travel to destinations east of Oregon, both by truck and rail.

Major Destinations for All Agricultural Products, Shipped by Refrigerated Truck and Rail

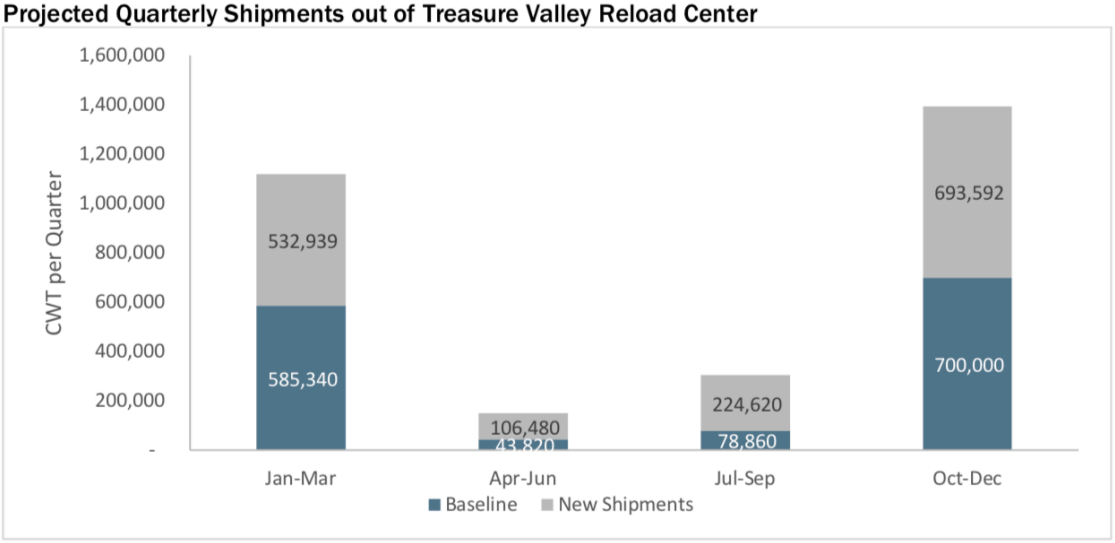


Source: ECONorthwest analysis of 2012 Commodity Flow Survey data; All products traveling by refrigerated truck or rail.

Market Share in the Area That Would Use the Facility

Market analyses of existing commodity flow and agricultural production data combined with stakeholder interviews indicate the expected level of rail service needed. Although the majority of products are still likely to travel by truck, the analysis indicates that there is sufficient demand to support 1.1 – 1.4 million CWT per quarter during the peak season (October through March), and 150 – 303 thousand CWT during the low season (April through September). Approximately 48 percent of these are expected to be new shipments, while the remainder will be substituted from existing rail sidings in the area.

Projected Quarterly Shipments out of Treasure Valley Reload Center



Source: ECONorthwest

Rail cars vary in size, and depending on loading technique, can carry different volumes. Quarterly shipments in CWT, 1,200 CWT capacity rail cars, and 1,600 capacity rail cars are shown below. This amounts to 86-107 thousand CWT per week, and between 54-67 and 72-89 rail cars per week in the high season.

Projected Quarterly Shipments out of the Treasure Valley Reload Center

Quarter	Shipments (CWT)	Rail Cars (1,200 CWT)	Rail Cars (1,600 CWT)
Jan-Mar	1,118,000	932	699
Apr-Jun	150,000	125	94
Jul-Sep	303,000	253	189
Oct-Dec	1,394,000	1,162	871

Source: ECONorthwest

The results of the stakeholder interviews with an opportunistic, self-selected sample are roughly consistent with this estimate. The fourteen interviewees suggested they would ship a total of 119 thousand CWT per week (1.5 million CWT per quarter) during the peak season.

Anticipated Transportation Cost Savings

Private transportation cost savings may accrue to users of the facility who face lower transportation costs than current alternatives. These benefits only accrue if user fees are lower than alternative shipping modes that provide the same level of service. Since, the current mix of shipping alternatives will continue to exist, allowing growers and shippers to choose the alternative that provides the best level of service, reliability, and timeliness necessary. Calculation of the scale of anticipated private benefits, however, is performed using expected demand, expected trucking costs, and a basic set of assumptions on markets served. Under full utilization, is private transportation cost savings are expected to total $1,831,000 per year. When evaluated over a twenty-year timeframe—from 2020 to 2040—at a 3 percent and 7 percent discount rate, these savings amount to between $18,129,000 and $26,448,000. These transportation cost savings are likely to be captured in the private market by either growers, shippers, the facility operator, or Union Pacific.

Size and Scale Necessary to Support Operation

The TVRC will include a 60,000 square foot warehouse with railroad tracks on one side and loading docks on the other side. Local shippers will back their trucks into the loading docks and unload their product into the warehouse. From the warehouse, operators will load product onto refrigerated rail cars when the train arrives. The warehouse will provide temporary storage capacity for product shipping on the next train. The site is large enough to accommodate additional warehouse development, which could increase future storage capacity and provide additional storage options, such as cold storage.

A site plan of the current proposed facility is shown in Section 6 of this proposal. This site plan also shows the area north of the proposed reload center where future buildings can be located along the same rail spur. This future reload facility area allows for considerable expansion of the proposed reload center, up to 6 to 7 times the building area and loading dock frontage. This future reload area can utilize the same rail infrastructure initially constructed for the facility with minimal extension of siding spurs, maximizing the future potential and use of the initial rail investment for the facility. Furthermore, the site plan shows potential lot layouts for the remainder of the site. This layout shows several potential site parcels ranging in size from 7 to 16 acres. These sites can be parceled out at whatever size is needed for businesses looking to locate in the vicinity of and adjacent to the reload facility.

The rail component of the TVRC will consist of a support track with 7,000-foot minimum clearance from the Union Pacific mainline. Two additional support tracks will be available to set out inbound cars and pull out with outbound cars. There will be sufficient switching length to shove a full cut of cars onto either loading tracks. There are sufficient track centers planned to allow for additional expansion1 in the future for two support tracks with 7,000-foot clearance each, two more storage tracks, and two more working tracks. These additional support tracks and storage

tracks would support any industrial customers that develop in the future industrial park adjacent to this facility on the Malheur County property.

Financial Feasibility of Operations

The financial feasibility of the TVRC is calculated using a financial operating model, which includes fixed and variable operating costs associated with all operations at the facility. Based on estimated demand for the facility and available market data and operating inputs from a comparable facility at the Port of Morrow, Oregon, it is expected that the facility will generate over $720,000 in revenue in each year of operation once build-out is complete. This is sufficient to support the continuous operation of the facility. At full build-out, this facility will require 7 full-time-equivalent staff, one facility manager, plus approximately 13 to 19 seasonal staff during the peak season.

Financial Feasibility of Demand Estimated for Treasure Valley Reload Facility

Year	1	2	3	4	5
Build out	50 percent	80 percent	100 percent	100 percent	100 percent
Revenues	$1,064,657	$1,703,451	$2,129,313	$2,129,313	$2,129,313
Expenses	$1,007,458	$1,249,398	$1,382,615	$1,342,139	$1,382,403
Depreciation	$24,500	$24,500	$24,500	$24,500	$24,500
Net Income	$32,698	$429,553	$772,198	$762,674	$722,410

Source: ECONorthwest

Anticipated indirect job and economic impacts are calculated using a standard input-output model and include direct, indirect, and induced impacts from construction and operational expenses. The construction of the facility and rail line will support $18.2 million in direct output, $5.5 in direct labor income, and 148 direct construction jobs. Spending circulates through the local economy resulting in indirect and induced effects. Combined with the direct effects, construction generates a total of $23.7 million in output, $7.1 million in labor income, and 199 jobs. The operations of

the facility will support $2.1 million in output, $1.2 in labor income, and an average of 16 jobs (full-time equivalents) every year. Summing the direct, indirect, and induced effects result in $2.7 million in total output, $1.4 million in total labor income, and approximately 21 total jobs supported by the facility.

Public Return on Investment Analysis

Public benefits to the residents of Oregon accrue when goods that are non-rival and non- excludable are improved. Although the values can often be inferred from private market transactions, public goods are not regularly bought and sold. This analysis draws information from published economic literature and relevant federal guidance to calculate a range of accruing benefits to Oregon residents from the construction of the TVRC. It is expected that the facility will generate between $1 and $1.8 million in benefits during full operation from removing trucks from roadways in Oregon. Over 20 years of operation, this amounts to between $10 and $26 million in total.

Potential Annual Benefits, in 2018 dollars

Category of Public Benefit	Low Estimate	High Estimate
Potential value of fatalities prevented	$116,000	$116,000
Potential value of highway accidents avoided	$15,000	$27,000
Social Cost of Carbon	$46,000	$283,000
Human Health	$774,000	$774,000
Air Pollution Reduction	$58,000	$58,000
Reduced Highway Road Maintenance	$0	$521,000
Total	$1,009,000	$1,779,000

Source: ECONorthwest

Bottom Line

The proposed Treasure Valley Reload Center can serve transportation needs in the region by providing direct regional access to the nation's rail network. The analysis contained in this report estimates that, once fully operational, economic conditions indicate that the reload center will be able to operate in a financially feasible manner, produce significant regional economic impacts, and potentially generate sufficient public benefits to generate a 1-to-1 return on investment for the State of Oregon.

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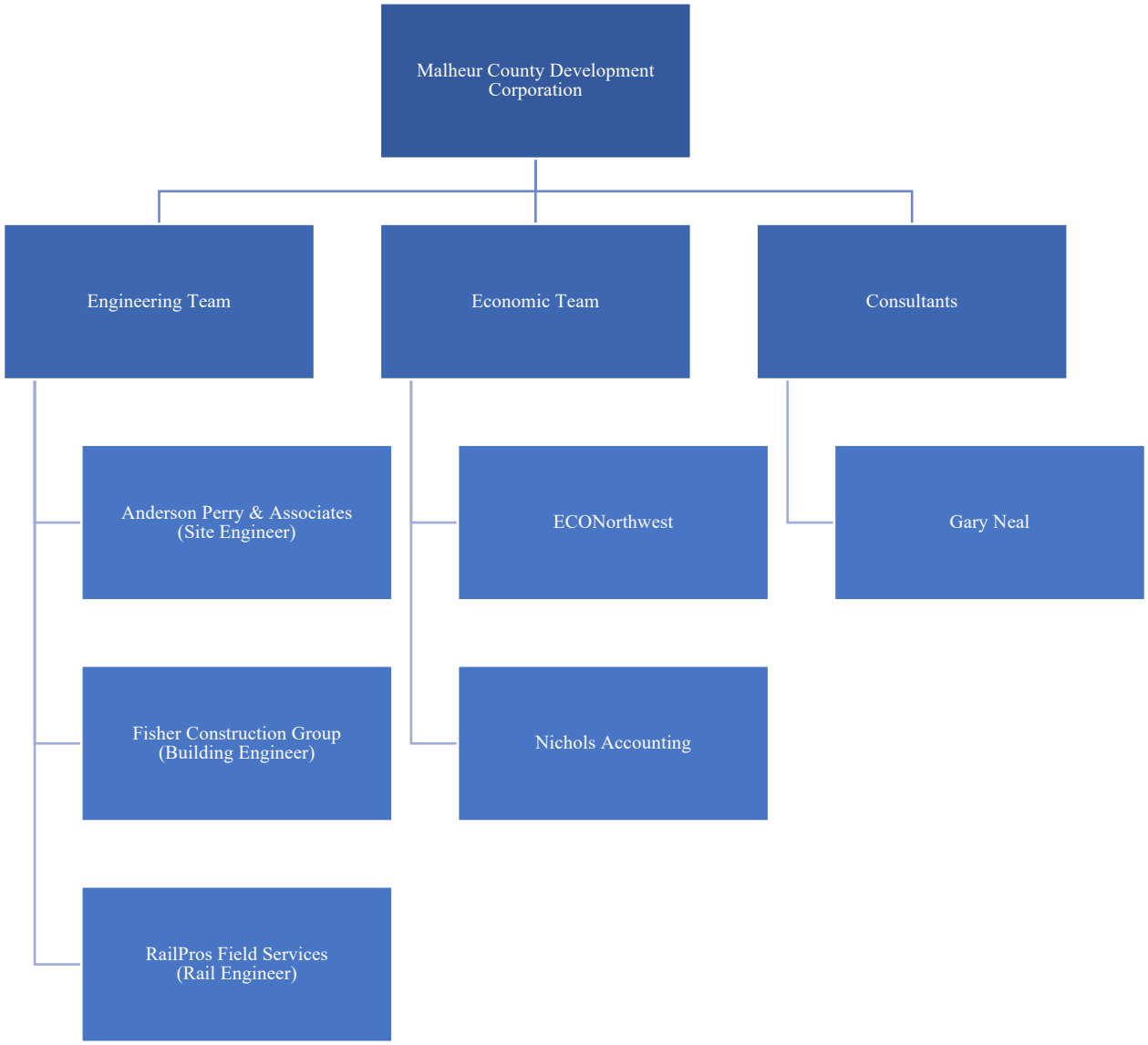
[Insert Tab 2: Project Team]

2. Project Team

Team Organization

An outstanding team of key personnel has been convened to provide comprehensive planning, surveying, permitting, environmental clearances, economic analysis, design, and construction engineering services for the TVRC project. This team has the full array of professional disciplines necessary to successfully complete this project. Members of the project team have specific education and many years of practical experience with industrial site development projects.

The following organizational chart reflects personnel committed to this project for each discipline needed. Brief firm introductions are included hereafter, followed by resumes for our key team members.



Malheur County Development Corporation (MCDC)

Role: Project Sponsor

MCDC is a 501(c)4 non-profit economic development corporation and will be the project sponsor for the TVRC. MCDC was created by the Malheur County Court (Board of Commissioners) in 2017 after the passage of Keep Oregon Moving (House Bill 2017-A) and appointed nine individuals to serve as the MCDC Board of Directors. Each member was chosen for their professional background and experience as it relates to the region, sectors of agriculture, business, land use, logistics, finance, and industrial development.

Anderson Perry & Associates, Inc. (AP)

Role: Site Engineer

AP is a full-service civil engineering, surveying, GIS, planning, and natural resources firm with nearly 100 employees and offices in La Grande, Redmond, and Hermiston, Oregon, and Walla Walla, Washington. Since 1975, AP has been a trusted local resource that many communities and organizations depend on for high quality, cost-effective engineering services. AP's services include site civil development, roadway and bridge design, water and wastewater systems, stormwater/drainage facilities, geotechnical engineering, surveying, GIS mapping, planning, environmental/permitting, cultural resources investigations, and construction engineering.

ECONorthwest

Role: Economic and Market Study

ECONorthwest is the Pacific Northwest's largest and most respected economic consulting firm. They provide independent, insightful, and relevant analyses that strengthen policy and investment decisions. Since 1974, ECONorthwest has served a diverse range of public and private-sector clients across the United States: business management and labor unions; conservationists and energy companies; public planning departments and private developers; and litigation plaintiffs and defendants. Their studies are conducted by staff vetted for strong economic, financial, and policy evaluative skills. The firm uses the best analytic methods available, and their products are clear and concise.

Fisher Construction Group

Role: Building Engineer

A native of the Pacific Northwest, Fisher Construction Group is a design-build construction services company serving many projects in Oregon and Washington. They have completed commercial and industrial projects, most notably Railex in Wallua, Washington, a Port of Morrow warehouse, a Lamb Weston expansion in Boardman, Oregon, SnoTemp in Eugene, Oregon, Americold in Tacoma, Washington, and more.

RailPros Field Services

Role: Rail Engineer

RailPros was founded in 2000 to provide a suite of transportation consulting services, specializing in rail engineering, design, and management. From concept through operation, characterized by technical excellence and outstanding services, RailPros' projects create long-term value for their clients. Their technical expertise, staff, and qualifications have flexible, non-bureaucratic policies and methodologies, meaning RailPros' senior project managers are able to work directly with clients and have decision-making authority. The RailPros array of services include design, engineering, planning, project and program management, construction management, and specialty services. By guiding numerous projects through conception into operation, their portfolio has grown to include impressive public agencies such as the San Diego Association of Governments, Orange County Transportation Authority, Los Angeles County Metro, Southern California Regional Rail Authority, Riverside County Transportation Commission, San Bernardino County Transportation Authority, Port of Long Beach, Bay Area Rapid Transit, and Caltrans.

Nichols Accounting

Role: Certified Public Accountant (CPA)

As a 501(c)4 non-profit, MCDC believes it is critically important to have accurate record keeping. MCDC will utilize the services of Nichols Accounting as their CPA firm. The services provided will include an annual audit of records. Nichols Accounting will perform an annual audit of the records to partners and the public assurance of fiscal accuracy.

Gary Neal

Role: Project Consultant

Mr. Neal has an extensive history and impressive professional resume of developing regional economic and industrial lands. He was the manager of the Port of Clarkston from 1984 to March 1989 and was also a Port of Clarkston Commissioner from 1981 to 1984. From 1975 through 1984, Neal worked with his father in the construction development business in the Lewiston-Clarkston valley. He began his career at the Port of Morrow in March 1989 and has developed the port to what it is today, Oregon's second largest port. Gary was named Economic Development Leader of the Year in 2000. He is currently on the board of the Bank of Eastern Oregon, Pacific Northwest Waterways Association, Oregon Ports Group, Northeast Oregon Water Association, and more.

Team Bios

Greg Smith
MCDC Officer of the Board
TVRC Project Manager

Greg Smith serves as the project manager for the TVRC project. Greg is a managing member of Gregory Smith & Company, LLC. The company was formed with his wife, Sherri, in 2000. Today, the company has nine employees and offices in Baker City, Boardman, Burns, Heppner, Hermiston, La Grande, Ontario, Salem, Seaside, and Sunriver. Greg's economic development expertise includes 26 years of small business consultation, business recruitment, and gap-financing experience. His work primarily focuses on commercial and industrial development, recruitment, small business assistance, and commercial financing. According to national statics gathered by the Oregon Small Business Development Center Network, Greg has been recognized as a national leader in gap finance lending. On average, he annually participates in the commercial gap financing and loan packaging of more than $15 million.

Greg has developed solid relationships with lead financiers, including the Bank of Eastern Oregon, US Bank, Community Bank, Banner Bank, Malheur Federal Credit Union, Old West Federal Credit Union, Greater Eastern Oregon Development Corporation, Business Oregon, U.S. Small Business Administration, U.S. Economic Development Administration, and USDA Rural Development Cooperative Services.

During Greg's employment at the Port of Morrow, he traveled to 39 counties and five continents recruiting national and international companies to Oregon's second largest port. This work included active participation in national and international trade shows, market analysis, targeted research, and corporate site visits. Greg also participated in the development of the Morrow Cold Storage project. Morrow Cold Storage, a joint venture between the Port of Morrow and Watts Brothers, has grown to a significant intermodal facility and continue to serve the regionals largest industries.

Most recently, the Columbia Development Authority (CDA), an Oregon Section 190 intergovernmental consortium composed of the Port of Morrow, Port of Umatilla, Morrow County, Umatilla County, and the Confederated Tribes of the Umatilla Indian Reservation, conducted a vigorous hiring process for a new executive director. After an in-depth search, the CDA found their ideal candidate in Greg. Greg's previous experience with the Port of Morrow gave him the additional skills needed to assist in the execution of the former Umatilla Chemical Depot property transfer and develop the industrial lands set aside for economic development. The U.S. Army, U.S. Army Corps of Engineers (USACE), and other government entities must closely collaborate with the CDA for the proposed transfer. Greg and his team readily address the complexity, confidentiality, and project deadlines of this transfer.

In the past, Greg has been an associate professor at the Eastern Oregon University (EOU) College of Business teaching business finance and business law courses. Today, he continues to provide professional development trainings, including Cash Flow Management, Writing an Effective Business Plan, Contracting with the Federal Government, and more. He also is a five-year instructor with the Northwest Economic Development Course that serves as the training ground for those professionals learning economic development through Oregon and Washington.

Grant Kitamura
MCDC Board President
CEO Baker & Murakami Produce

Grant Kitamura was raised on a family farm in Ontario, the grandson of Japanese immigrants who have been involved in vegetable production in the Pacific Northwest since the early 1920s. Grant's late parents continued farming, and his siblings currently operate one of the largest local row-crop farms in Malheur County.

Grant joined Murakami Produce Company in Ontario in 1980 and along with its founder, Sig Murakami, developed one of the region's largest volume onion packing and shipping operations. Grant has served on several industry boards, including the National Onion Association, Idaho-Oregon Fruit & Vegetable Association, and the Idaho-Eastern Oregon Onion Committee, which administers Federal Marketing Order 958. He has served on the local hospital board and his church board, as well as city and county advisory boards.

Grant graduated from Ontario High School and then Oregon State University (OSU) with a bachelor's degree in business administration, accounting, and finance. Grant has been inducted into the OSU College of Agriculture Hall of Fame and has been honored as Businessman of the Year by the Ontario Chamber of Commerce.

Lynn Findley
MCDC Board Vice President
State Representative, Oregon State Legislature

Lynn Findley is a long-time resident of Vale, Oregon. He grew up on a farm and continues to live on a small acreage raising beef cattle. He has served as the city manager of the community since July 2013. Lynn has a robust and comprehensive knowledge of land use planning and fully supports economic development and stability to grow local economies. His 32 years at the Bureau of Land Management (BLM) provides him with expert knowledge of public land management, and he strives to ensure local involvement is included in public land decisions. While working at the BLM, he served as the aviation program manager for fire and aviation management, assistant director manager of Operations and Support Services for the Vale District, manager of the National Interagency Coordination Center located at the National Fire Center in Boise, and incident commander on incident management teams managing wildfires in all Western States including Alaska.

Locally, he has also served his community on the Owyhee Basin Steward Coalition, Southeast Area Commission on Transportation, Malheur County Planning Commission (three years as chair), Lakeview Town Planning Commission, Rural Lands Planning Committee, and Malheur County Comprehensive Plan Goal 3 Rewrite Committee.

Toni Parish
MCDC Board Member
Vice President of Appraisal Services, Northwest Farm Credit Services

Toni brings a depth of knowledge to the MCDC board. She currently serves as the vice president of appraisal services for Northwest Farm Credit Services. In this role, she supervises and leads appraisal staff in Central and Eastern Oregon, as well as Central Washington. Before her current leadership role, she served as senior appraiser with a diverse range of agriculture properties. Subjects included commercial row crop farms, dry crop farms, livestock and dry pasture units, ranches, dairies, part-time farm units, rural housing units, and more. Toni is certified in the state of Oregon, state of Idaho, and the state of Washington. She is also an accredited rural appraiser with the American Society of Farm Managers and Rural Appraisers. Toni has a Bachelor of Science degree in agriculture economics from the University of Idaho.

Kay Riley
MCDC Board Member
General Manager and President, Snake River Produce Company

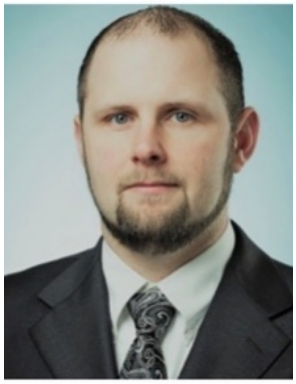
Kay is the general manager and president of Snake River Produce Company, a packer and shipper of dry bulb onions located in Nyssa, Oregon. The company was formed in 1999 when he and four onion growers purchased the packing and storing facilities from Muir Roberts Co., Inc., a Salt Lake City-based packer and shipper of produce. While at Muir Roberts, Kay worked as a field man, packing shed manager, salesman, vice president of operations, and a member of their Board of Directors for 11 years. While working in the Treasure Valley, Kay has served as president of the Idaho-Oregon Fruit & Vegetable Association, president of the National Onion Association, Chairman of the NOA Ad-Hoc Committee for Food Safety, and currently serves as president of Certified Onions Inc., a non-profit pesticide and pathogen testing company. Kay also currently serves as chair of the Idaho-Eastern Oregon Onion Committee.

James Farmer
MCDC Board Member
President, Fort Boise Produce

Jim is the co-founder, co-owner, and president of Fort Boise Produce. He has spent the majority of his life in Nyssa. Jim attended the University of Utah where he obtained degrees in accounting and economics. Before founding Fort Boise Produce in 1982, Jim enlisted in the United States Marine Corp, worked in public accounting at Touche Ross, and internal auditing at J.R. Simplot.

Corey Maag
MCDC Board Member
Owner, Jamieson Produce and Y-1 Farms, Inc.

Corey is a graduate of Vale High School and OSU, where he earned a Bachelor of Science degree in agricultural business management with a minor in crop soil science. Corey and his family are owners and operators of a farm/feedlot operation for Y-1 Farms, Inc. He is also the owner of Jamieson Produce of Vale, a local storage and packing company. His family is also a local producer of onions, sugar beets, corn, wheat, and alfalfa, in addition to cattle ranching. Corey currently serves the community and state as vice president of the Idaho-Eastern Oregon Onion Marketing Order, vice president of the Oregon Onion Growers, Vale Irrigation District board member, Willowcreek Elementary School board member, and St. Patrick's Catholic Church Pastoral Council. He has previously served as a Malheur County Potato Growers board member, and Oregon Potato Commission research representative.



Jeremy Leathers
MCDC Board Member
General Manager, Americold Logistics - Ontario Facility

Jeremy has lived in Malheur County for over 30 years. He is currently the general manager for Americold Logistics in Ontario. He has 20 years of experience in the warehousing, logistics, and supply chain industry. Prior to general manager, Jeremy served as the operations manager and quality assurance manager. In his current role, Jeremy is responsible for managing all warehouse functions including operations, transportation, personnel, and customer service for large companies including Kraft Heinz and J.R. Simplot. Jeremy holds a bachelor's degree in business administration from EOU.

John Qualls
MCDC Board Member
Senior Vice President and Chief Lending Officer, Bank of Eastern Oregon

John attended EOU and graduated from OSU in 2000 with a double major in agricultural business management and crops and soil sciences. In 1997, John joined the Oregon National Guard, and in 2000 he was commissioned as an Armor Officer into the 3-116th Cavalry Regiment. In 2001, John was hired as a field man for the OSU Extension Service for Gilliam County in Condon. In 2002, John changed careers when he was hired as a loan officer trainee at the Bank of Eastern Oregon in Heppner. After finishing his training program, John was promoted to a loan officer and was based out of Condon. Shortly after being moved to the Heppner office in 2007, he was promoted to vice president and regional manager of lenders in 2009. In 2012, he was promoted to senior vice president and senior loan officer at the Bank. In 2015, he began managing the Mortgage Division and in 2017 he was promoted to the Bank's chief lending officer. He currently holds the rank of Lieutenant Colonel in the Oregon National Guard and recently served as the Commander of the 1-82nd Cavalry Squadron in Bend.

Brad Baird, P.E.
Anderson Perry & Associates, Inc.
President/Lead Civil Engineer

Brad is the president of AP and is a senior project engineer with 28 years of experience obtaining funding, coordinating with regulatory agencies, and providing planning, design, and construction engineering in support of a variety of projects. Brad is involved in all phases of the planning, funding, design, and construction processes, from preparing planning studies, master plans, and funding applications to design and construction administration. Preparation of contract documents and working with state and federal agencies for design approval are key parts of nearly all his various projects. Brad's many years of design and construction engineering experience in eastern Oregon allows him to provide insight, critical thinking, and technical advice to ensure the best product will be delivered. Brad is comfortable with public speaking and routinely speaks at council meetings and public relations meetings and is called upon to teach at technical seminars for public works professionals.

Andy Lindsey, P.E.
Anderson Perry & Associates, Inc.
Roadway Engineer

Andy is AP's transportation department manager and has served as the roadway design team leader on many similar successful projects. His background includes roadway projects involving roadway design, traffic control, asphalt paving, intersection improvements, stormwater management, utilities coordination, etc. Andy has also provided design and construction engineering services for many site development projects in eastern Oregon. Work for these projects includes site layout; grading and design of roadway approaches, sidewalks, and parking areas; water and sanitary sewer services; building fire service; storm drain inlets and piping; and stormwater infiltration swales.

Eric Smith, P.E.
Anderson Perry & Associates, Inc.
Utility Engineer

Eric is a senior project engineer with 23 years of experience associated with water, wastewater, transportation, and site development projects. Eric's experience includes preparing project scopes and budgets associated with municipal and private projects, managing contracts, and managing concurrent projects including alternatives development, permitting, design, construction management, and project closeout. Eric also has extensive experience developing funding applications for water systems, sanitary sewer improvements, community centers, storm drainage facilities, and transportation projects.

Brian Hansen, P.E.
Anderson Perry & Associates, Inc.
Site Development Engineer

Brian is a project engineer with 11 years of experience who is primarily involved in site civil development and utility projects. Prior to joining AP, Brian worked for a land development consulting firm. His responsibilities included conceptual site layouts, infrastructure design, constraint analysis, cost estimation, and preparing design documents including plans and reports. Brian has worked on many projects from inception through construction ranging from large, single-family dwellings to 20-building apartment complexes to single-family plats containing hundreds of lots.

Mike Posada, P.L.S., C.W.R.E.
Anderson Perry & Associates, Inc.
Survey Manager

Mike is a professional land surveyor and certified water rights examiner with 30 years of experience, 20 of those with AP. Mike manages the survey staff and oversees the daily activities of the survey department. Mike is also responsible for the quality control process that is an integral part of every AP survey project. He coordinates with individual project surveyors to ensure the timely completion of a variety of survey projects, from LiDAR and photo control surveys to design/location surveys, boundary/right-of-way determinations, and construction surveys. Mike has been responsible for coordinating logistics of remote and challenging survey control networks for large-scale mapping projects. Mike has performed surveying services on many site development projects in eastern Oregon.

Sue Brady
Anderson Perry & Associates, Inc.
Senior Biologist/Wetland Specialist

Sue is involved in environmental review, permitting, and mitigation for public projects. Sue has 24 years of experience in the environmental and biology fields. Sue has been involved in environmental reviews associated with a variety of project types, including irrigation improvements, road improvements, bridge repairs and replacements, culvert replacements, water and wastewater improvements, mitigation site design and monitoring, and stream habitat improvements. Her responsibilities for these projects include project site assessments for natural resources impacts, conducting wetland delineations and protected species surveys, developing mitigation plans, preparing various reports as part of the planning and permitting process. Sue is a qualified senior author for writing biological assessments for WSDOT and an ODOT-qualified consultant to prepare Endangered Species Act documents.

Dr. Adam Domanski
ECONorthwest
Project Director

Dr. Adam Domanski is a project director at ECONorthwest who specializes in environmental and natural resource economics, natural resource damage assessment, applied econometrics, and nonmarket valuation. He has extensive experience valuing changes to public and environmental goods using quantitative methods. Prior to joining ECONorthwest, Adam was an economist with NOAA's Office of Response and Restoration and was responsible for assessing ecological and human use injuries resulting from oil spills and chronic hazardous waste contamination. He also served as the Acting Deputy Director of NOAA's Marine Debris Program and represented the Agency at the 2017 G20 meetings in Germany. Adam is a member of the American Economic Association and Association of Environmental and Resource Economists.

Madeline Baron
ECONorthwest
Project Associate

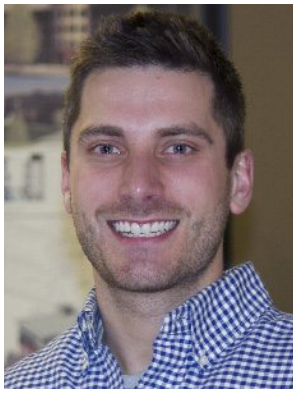
Madeline Baron joined ECONorthwest as a project associate in 2017. She specializes in affordable housing, finance, research, and policy analysis. Prior to joining ECONorthwest, Madeline was an asset management project assistant and assisted with CDFI lending at the Housing Development Center. She provided asset management services, consulting, and technical assistance to 25 affordable housing organizations across the Pacific Northwest, including cash flow modeling, capital needs analysis, loan underwriting, and pro-forma analyses. She ran a data analysis of the financial and physical health of many of these properties, and helped develop and present policy solutions to public and private funders. Before the Housing Development Center, she worked as a financial analyst at a brokerage firm in Portland and held numerous research and data internships in Portland and Washington DC, including with the City of Beaverton, the Economist Intelligence Unit, the U.S. Securities and Exchange Commission, and The Brookings Institution.

Sarah Reich
ECONorthwest
Policy Analyst/Project Manager

Sarah Reich joined ECONorthwest as a policy analyst in 2006. She specializes in environmental and natural resource policy, planning, and economics. Her professional and academic experience focuses on water policy issues, watershed management decisions, and socioeconomic dimensions of environmental planning. Sarah recently assessed the economic benefits and cost of investments in water supply infrastructure, watershed restoration projects, green infrastructure approaches for managing stormwater, and sustainable site design. All of these projects involved detailed quantitative and qualitative assessment using an ecosystem-services framework grounded in science and economics. She has also managed large-scale socioeconomic analyses for federal and state environmental review. She has presented at regional and national conferences. In 2006, she was recognized with an AICP Outstanding Student Award.

Troy A. McOmber, AIA, NCARB
Fisher Construction Group
Vice President
As a senior level manager, Troy is actively involved in establishing company policy and direction. He oversees the A/E group and assures conformance to company directives and monetary goals. As lead manager of pre-construction on large industrial projects, he coordinates entitlements, consultants, construction documentation, and permitting.

Juan Ozuna
Fisher Construction Group Project Manager
Juan manages all aspects of construction including estimating, scheduling, purchasing, contracts, subcontracts, and change order negotiations. He is responsible for project performance and communicating with owners and representatives, architects, project superintendents, and subcontractors.



Zach Marschke
Fisher Construction Group
AIA Associate
Zach is a designer who works with account executives to meet design objectives. He also provides consultant coordination, management of construction documents, construction coordination, and permitting.

Jim Marshall
RailPros
Program Manager
Jim's unique qualifications come directly from a 35-year career working for Union Pacific Railroad (UPRR). His most recent positions include program manager-commuter and special projects manager for UPRR, working on public, private and commuter projects. Through effective management of projects and relationships he has built throughout his career, Jim has continuously delivered successful projects. Jim has a range of skills including negotiating agreements, understanding railroad operations and railroad processes, freight and commuter interaction, track design, public crossing design, class 1 engineering standards, UPRR passenger station standards, crossing closures, litigation, and quiet zones. Jim's experience includes managing large commuter and freight projects, problem solving, design review,

working with state and local agencies on public projects affecting the railroad, crossing closures, and having the knowledge to keep projects on track and moving forward. Jim's biggest asset is his relationships within the freight rail and commuter industries with contractors and state and local agencies.

Shawn Marshall, P.E.
RailPros
Rail Site Design Engineer

Shawn is a professional engineer specializing in rail and site design, including rail facilities and commercial/industrial site layout, track, grading, drainage, and pavement design. He has designed or led the design of several projects for both Class I and Class II railroads and industrial rail users. Shawn has managed and led the design of pavement reconstruction projects for Class I railroads, including program management and coordination. He is dedicated to providing quality services and meeting client expectations, and uses his technical and personal skills to represent clients in a professional manner.

Terry Tate
RailPros
Senior Project Manager

Terry has over 41 years of continuous experience in transportation operations management, with the majority of his career spent as an employee of UPRR and Southern Pacific Railroad. He was closely involved with the Utah Transit Authority as they built their passenger railroad and has negotiated with both internal and external entities. He possesses strong project management acumen, solid analytical skills, and detailed knowledge of rail operations.

Doug Lamm
Nichols Accounting
CPA/Principal

Doug graduated from Northwest Nazarene University in December 1980 and began his accounting career in January 1981. He joined Pete Nichols as a partner at Nichols Accounting in spring of 1989. Doug has concentrated his accounting and tax practice so that he can work with the kind of people he grew up with, the small business and farm owner. As such, he has developed a wealth of experience in real estate, business tax, family business challenges, retirement planning for small businesses, and estate tax planning issues. He spends the majority of his time planning with clients, drawing from that experience, concentrating on how to "proactively plan" for the growth and tax related issues of their family businesses.

Gary Neal
Private Business/Industrial Development Consultant

Gary attended Washington State University majoring in political science. He was the Mr. Neal has an extensive history and impressive professional resume of developing regional economic and industrial lands. He was the manager of the Port of Clarkston from 1984 to March 1989 and was also a Port of Clarkston Commissioner from 1981 to 1984. From 1975 through 1984, Neal worked with his father in the construction development business in the Lewiston-Clarkston valley. He began his career at the Port of Morrow in March 1989 and has developed the port to what it is today, Oregon's second largest port. Gary was named Economic Development Leader of the Year in 2000. He is currently on the board of the Bank of Eastern Oregon, Pacific Northwest Waterways Association, Oregon Ports Group, Northeast Oregon Water Association, and more.

[Insert Tab 3: Project Overview]

3. Project Overview

Background

Malheur County is in Eastern Oregon along the Oregon-Idaho border. The County's economy is agriculturally based. Because most of the products grown locally are perishable (such as onions, beets, potatoes, grains, etc.), producers seek expedited transportation of their product to markets. To meet this need, local growers are trucking produce from the Treasure Valley along Interstate 84 to Wallula, Washington. There, the local commodities are loaded onto the ColdConnect facility (formerly known as Railex), which provides multiple weekly west coast to east coast expedited shipments. This shipment route brings the commodities straight back through Eastern Oregon, including Malheur County communities. This inefficient transportation system is a 403-mile round-trip for local shippers, adding transportation costs that limit competitiveness in a low-profit margin section of Oregon's economy.

In fall 2015, Malheur County Economic Development began conversations with local growers, packers, and shippers to develop a reload facility in Malheur County to bring efficiency to the movement of products. Throughout 2015 and 2016, Malheur County engaged members of RailEx, UPRR, and the Oregon State Legislature. The Keep Oregon Moving Bill (House Bill 2017-A) was passed in 2017 and authorized $26 million for ODOT to fund an intermodal facility in the Treasure Valley to enhance shipping capabilities for regional businesses.

With the passage of House Bill 2017-A, MCDC was immediately created by the Malheur County Court. Nine members were appointed to serve as the MCDC Board of Directors. The board was tasked with selecting the ideal site location, development of the project, and operational oversight of the TVRC project. Each member was chosen for their professional background and experience with the region, sectors of agriculture, business, land use, logistics, finance, and industrial development. MCDC has proposed building a truck-to-rail reload facility on a rail-adjacent site in Nyssa.

Purpose and Need

The proposed TVRC will serve the agricultural community in the Treasure Valley by providing infrastructure to transfer agricultural products from trucks to rail. The TVRC has the potential to provide public benefits by reducing the number of trucks using Eastern Oregon highways, which would potentially lower highway maintenance costs, improve air quality, and decrease carbon emissions. The project will produce positive economic impacts through increased local spending and create employment opportunities.

Nyssa sits in a geographic location that allows agricultural producers in the region to consolidate their products efficiently. There are two primary substitute reload facilities with rail access: the ColdConnect facility in Wallula, Washington, and rail terminals in Salt Lake City, Utah. Upon construction of the TVRC, shippers in the total shaded area in the figure above will be able to transfer their goods by truck within a single working day. Those shippers also located within a 5-hour drive of the substitute facilities will make decisions based on the relative cost, timeliness, and reliability.

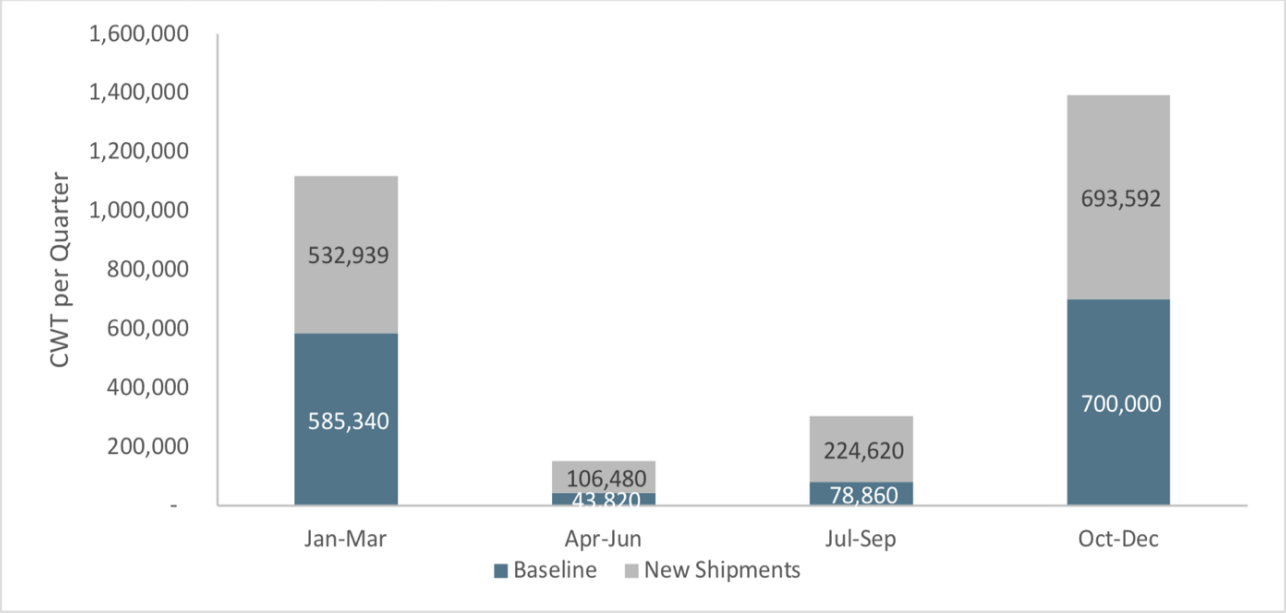
Figure 4: Area within a 5-hour drive of Nyssa, Oregon

Source: ECONorthwest

Onion production and export emerged as a driving theme during stakeholder interviews. Due to the heavy influence of this commodity in the region, it is important to understand the market demand, growing and shipping conditions, and trends for onion production. The Treasure Valley collectively grows more than 40 percent of the onions in the Pacific Northwest, with more than 19,000 acres harvested each year. Over the past five years, an average of 9.9 million CWT29 (490,000 U.S. tons) of onions has been shipped out of the region each year to customers throughout the United States.

When applied to USDA specialty crop production data, the econometric model predicts that nearly 3 million CWT of onions will utilize the facility, with significant seasonal variation as illustrated on Figure 19 below. Approximately 79 percent of the shipments will take place between October and March. The estimate is predicated on the assumption that the facility operates efficiently, is priced at market rates, and provides a level of service equivalent to that currently available throughout the region.

Figure 18. Projected Quarterly Shipments from the TVRC, CWT



Source: ECONorthwest

Rail cars vary in size and, depending on loading technique, can carry different volumes. Quarterly shipments in CWT, 1,200 CWT capacity rail cars, and 1,600 capacity rail cars are shown in Figure 19 below. This amounts to 86-107 thousand CWT per week and, depending on the size of the rail car, anywhere between 54 to 89 rail cars per week in the high season.

Figure 19. Projected Quarterly Shipments out of the Treasure Valley Reload Center

Quarter	Shipments (CWT)	Rail Cars (1,200 CWT)	Rail Cars (1,600 CWT)
Jan-Mar	1,118,000	932	699
Apr-Jun	150,000	125	94
Jul-Sep	303,000	253	189
Oct-Dec	1,394,000	1,162	871

Source: ECONorthwest

Scope of Work

The TVRC will include a 60,000 square foot warehouse with railroad tracks on one side and loading docks on the other. Local shippers will back their trucks into the loading docks and unload their product into the warehouse. From the warehouse, operators will load product onto refrigerated rail cars when the train arrives. The warehouse will provide temporary storage capacity for product shipping on the next train. The site is large enough to accommodate additional warehouse development, which could increase future storage capacity and provide additional storage options, such as cold storage.

The rail component of the TVRC will consist of a support track with a 7,000-foot minimum clearance from the UPRR main line. Two additional support tracks will be available to set out inbound cars and pull out with outbound cars. There will be sufficient switching length to shove a full cut of cars onto either loading track. There are sufficient track centers planned to allow for additional expansion in the future for two support tracks with 7,000-foot clearances each, two more storage tracks, and two more working tracks. These additional support tracks and storage tracks would support any industrial customers that develop in the future industrial park adjacent to this facility on Malheur County property.

[Insert Tab 4: Site Location]

4. Site Location

Process

To identify the ideal location for the TVRC, MCDC reviewed Malheur County's industrial inventory to determine properties that could serve as a reload facility location. Preliminary criteria for potential sites was formulated through discussions with UPRR, rail logistics companies, and similar facilities in Wallula, Washington, and Delano, California. Initial criteria included the following:

Size	▪ Sufficient acreage for a reload facility layout. Minimum of 100 developable acres. ▪ Sufficient acres for potential rail spurs. Manifest train requirements include separate drop and pull tracks. Unit train requirements include approximately 1 mile of rail access allowing for a unit train to pull onto a rail spur and clear UPRR main line. ▪ Sufficient acres for future expansion or related industries to locate near the facility.
Zoning	▪ Industrially zoned or can be reasonably rezoned to industrial.
Utilities	▪ Access or readily easy access to water, wastewater, power, and natural gas.
Location	▪ Along the UPRR.

Over the course of four months, MCDC met six times to review five proposed site locations. The board meetings occurred on the following dates.

- August 28, 2017
- August 29, 2017
- September 26, 2017
- November 2, 2017
- November 10, 2017
- November 14, 2017

Sites Identified and Considered

From the criteria above, the properties below were selected by MCDC to evaluate further as potential sites for the TVRC.

1	Nyssa	Zones A, B, C
2	Nyssa	Zone D
3	Nyssa	Zone F
4	Ontario	Zones A, B, C, D, E
5	Ontario	Zone F

MCDC gathered information on each proposed property as it pertained to (1) land price, (2) utility cost estimates, (3) environmental factors, (4) land use factors, (5) community, and (6) transportation. In addition, the UPRR sent their industrial development leaders to perform a site visit at each proposed site. This team included their Western Regional Industrial Development Director Paul MacDonald and Regional Industrial Development (Northern California, Oregon, Washington) Manager Jayson Bisbee.

Based on this analysis, the Nyssa Zone F and Ontario Zone F sites were not moved forward to final consideration by MCDC.

Property Overview

Site One: Nyssa Zones A, B, and C

- Size: 133.49 acres (Zone A, 19.96 acres; Zone B, 78.93 acres; Zone C, 35.6 acres)
- Zoning: The property is currently zoned industrial.
- Ownership: Zone A is owned by the City of Nyssa; Zone B is owned by Nyssa Industries; Zone C is owned by the Bybee family.
- Location: The property is located along the UPRR main line.
- Rail Engineer Notes: Limited room for clearing main line, building set-out, and pick-up tracks.

Site Two: Nyssa Zone D

- Size: 285.35 acres
- Zoning: The property is currently zoned CA-1 Exclusive Farm Use. A Department of Land Conservation and Development representative has viewed the property in connection to the proposed project. They believe rezoning the property to industrial would be straightforward and do not see any major issues.
- Ownership: The property is owned by the Farmer family.
- Location: The property is located along the UPRR main line.
- Rail Engineer Notes: Best overall site to meet UPRR criteria. Opens possibility into future expansion into Site one. Potential for future food train and unit train operations. Ample room for future growth.

Site 3: Nyssa Zone F

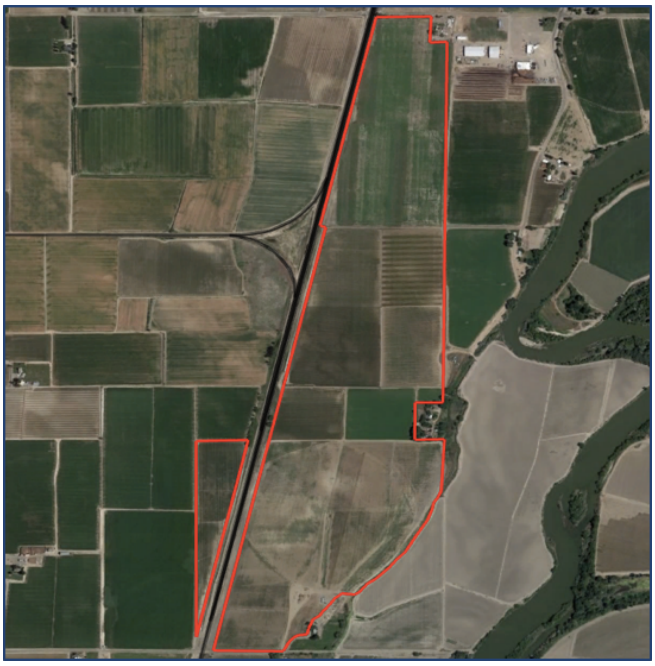
- Size: 118 acres
- Zoning: The property is currently zoned Industrial.
- Ownership: The property is owned by Amalgamated Sugar.
- Location: The property is located along the UPRR main line with multiple rail spurs branching off along the property.

Not carried forward to consideration. See selection criteria above.

Site 4: Ontario Zones A, B, C, D, and E

- Size: 310.97 acres. (Zone A, 7.5 acres; Zone B, 6.62 acres; Zone C, 18 acres; Zone D, 166.76 acres; Zone E, 112.09 acres)
- Zoning: The property is currently zoned Heavy Industrial and Rail Dependent Industrial. Zone E is located in the Urban Reserve Boundary of Ontario.
- Ownership: Zone A, B, and C are owned by the Weaver family. Zone D is owned by the Navarrete family. Zone E is owned by Treasure Valley Renewables.
- Location: The property is located along the UPRR main line.
- Rail Engineer Notes: Would have to relocate the homeowners. Tight room for operating track length. Future growth limited due to site size. No future unit train operations. Highly unlikely for food train operations due to track lengths.

Site 5: Ontario Zone F



- Size: 254 acres.
- Zoning: The property is currently zoned Industrial.
- Ownership: The property is owned by Ricky Kitamura, the Navarrete family, and Top Onions USA.
- Location: The property is located along the UPRR main line.

Not carried forward to consideration. See selection criteria above.

Final Site Selection Criteria

The following information was gathered for the remaining three sites for use in selecting the preferred site.

Property	▪ Price ▪ Acres ▪ Address, Map No., Tax Lot No. ▪ Tax Rates
Local Support	▪ Letter from local jurisdiction sharing support
Land Use	▪ Confirmation of zoning. ▪ Confirmation site is in UGB or acceptable unincorporated community boundary. ▪ Annexation information.
Environmental/Cultural	▪ DSL Offsite Wetland Determination Report ▪ Information on site from DEQ online database ▪ Information on site from OPRD online database
Transportation	▪ Transportation system serving site
Utilities	▪ Water ▪ Wastewater ▪ Stormwater ▪ Power ▪ Natural gas
System Development Charges (SDCs)	▪ Transportation SDCs ▪ Water SDCs ▪ Wastewater SDCs
Maps	▪ Site/aerial ▪ Topographic ▪ Transportation

Price

Property Name	Property Owner	Map#	Tax Lot#	Acres	Price/Acre	Total Price
Nyssa						
Zone A	City of Nyssa	19S4720	500	18.96	$ 9,493.67	$ 180,000.00
Zone B	Nyssa Industries	19S4720	200	78.93	$ 5,000.00	$ 394,650.00
Zone C	Bybee Family	19S4720	3700	35.6	$ 14,044.94	$ 500,000.00
Zone D	Farmer Family	19S4717	100	285.35	$ 10,000.00	$ 2,853,500.00
Ontario						
Zone A	Weaver Family	18S4716A	900	7.5	$ 35,000.00	$ 262,500.00
Zone B	Weaver Family	18S4716A	1100	6.62	$ 35,000.00	$ 231,700.00
Zone C	Weaver Family	18S4716A	1000	18	$ 35,000.00	$ 630,000.00
Zone D	Navarrete Family	18S4716A	1300, 1200, 1100	166.76	$ 32,000.00	$ 5,336,320.00
Zone E	Treasure Valley Renewables	18S4721	200	112.09	$ 22,303.51	$ 2,500,000.00

Environment/Culture

	Nyssa (Zone A-C)	Nyssa (Zone D)	Ontario (Zones A-E)
DEQ ECSCI Database Findings	Yes - ECIS Database shows recommended for Zone A and Zone C.	Nothing found.	Nothing found.
Wetland Determination Letter (DSL)	See report.	See report.	See report.
Preliminary SHPO Site Search	Nothing found.	Nothing found.	Nothing found.

Taxes/Incentives

	Nyssa (Zone A-C)	Nyssa (Zone D)	Ontario (Zones A-E)
Property Tax Rate (2017-18)	15.1018	15.1018	13.4013
System Development Charges (SDCs)	None	None	Yes
Transportation SDCs	None	None	Code 130 Industrial Park ($993/1,000 sq. ft. Gross leasable area), Code 150 Warehouse) $708/1,000 sq. ft. Gross leasable area.)
Waters SDCs	None	None	By meter size. 0-1 inch = $975; 1.5 inch = $4,875; 2 inch = $7,800; TBD for meters greater than 2 inches.
Wastewater SDCs	None	None	By meter size. 0-1 inch = $481; 1.5 inch = $2,405; 2 inch = $3,848; TBD for meters greater than 2 inches.
SDC Notes	None	None	The city can update their project list for SDC's so the project would be eligible for the us elf SDC's during the build out. This could potentially make available tens o thousands of dollars.
Oregon Investment Advantage	Yes	Yes	Yes
Enterprise Zone	Yes	Yes	Yes
Regional Significantly Industrial Area (Designation)	Yes	No	Yes
Annexation Required	Yes, with use of city utilities. $1,500 flat fee.	Yes, with use of city utilities. $1,500 flat fee.	Yes, with use of city utilities. $300 fee + $0.02 per sq. ft. City notes they could back a portion of annexation fees for investment back into the project. Using a ball park figure of 200 acres at $0.02 per square foot this would be approximately $174,240 toward the project.

Water

	Nyssa (Zone A-C)	Nyssa (Zone D)	Ontario (Zones A-E)
Can the water system serve the property?	Yes	Yes	Yes
Line size (inches) and pressure.	Less than 1-mile.	Southern boundary is approximately 1-miles north.	Less than 1-mile.
Current capacity, average utilization, peak utilizations, excess capacity of water system.	City has approximately 290,000 gallons per day of available water capacity specifically for industrial expansion. Total capacity for the system is approximately 840,000 gallons per day for sustained daily usage, and the city has storage capacity fo 3.1 million gallons to provide peak flows and fire needs.	City has approximately 290,000 gallons per day of available water capacity specifically for industrial expansion. Total capacity for the system is approximately 840,000 gallons per day for sustained daily usage, and the city has storage capacity fo 3.1 million gallons to provide	Current capacity of the water treatment plant is approximately 11 mdg with a reliable capacity of just over 8 mid. Peak summer usage can spike up to 10 mgd, but annual average usage is 6.1 mgd.
Gallons per minute (gpm) that could be provided to the site.	Water system can provide approximately 200 gallons per minute to the site for a 24-hour average flow rate. Peak flows could be substantially higher. Fire flow would be approximately 3,300 gallons per minute with improvement.	Water system can provide approximately 200 gallons per minute to the site for a 24-hour average flow rate. Peak flows could be substantially higher. Fire flow would be approximately 3,300 gallons per minute with improvement.	With the current treatment and storage system, the City has an available capacity of between 0.75-1 mgd.
Description of planned/pending changes to the site.	No changes to the capacity are pending.	No changes to the capacity are pending.	The city's capital improvement plan identifies the design and construction of additional capacity in fiscal year 2019-20. The project should provide approximately 1 mdg additional capacity at an estimate cost of $1.5
Estimated construction timeline.	If the project is split into two phases, Phase I could be constructed within approximately 5-months of notice to proceed with the design. Phase I would provide water service to the site with limited fire flow of approximately 8-months notice to proceed because of easements which may be required to cross private property. At completion of Phase II, full fire flow of approximately 3,300 gallons per minute would be	Construction would require approximately 6.5 months. (1.5 months for Zone D, plus 5 month for Zones A-C).	In general, the city anticipates the design and permitting typically taking between 3-6 months. Actual construction can take an additional 3 to 9 months. The city recommends considering 1-year timeline fro entire construction process. Typically construction conducted through the private sector can be handled more quickly using more flexible financing and construction methods, such as
Estimate costs.	Line extension to the site would require approximately 7,400 ft of 12-inch line and 10,900 ft of 10-inch line. Estimated cost of water extension is $2.2 million.	Line extension to the site would require approximately 12,200 ft of 12-inch line and 17,500 ft of 10-inch line. Estimated cost of water extension is $3.6 million. Extension and cost include	Estimated construction costs for water extension range between $610,000 up to $910,000 depending on access points to the property. Price does not include a small life station the city believes would be needed. Water System Development Charges will also
Other information on water system.	None	None	The city would be willing to allow a temporary well and septic at the site until the city can extend water and sewer to the site. (Note, DEQ would need to approve as well.)

Wastewater

	Nyssa (Zone A-C)	Nyssa (Zone D)	Ontario (Zones A-E)
Total system capacity.	The city sewer system can serve the proposed site. Total system capacity is approximately 0.8 mgd with approximately .025 mgd designated and available for new industrial development.	The city sewer system can serve the proposed site. Total system capacity is approximately 0.8 mgd with approximately .025 mgd designated and available for	The city's wastewater treatment system has a design capacity of 3.8 mdg and a reliable capacity of 2.6 mdg. The average flow to the treatment plant is approximately 1.8 mgd. The system available is at least 1 mdg.
Existing line size.	No existing lines are adjacent to the site.	No existing lines are adjacent to the site.	No existing lines are adjacent to the site.
Distance of wastewater line to the site.	Approximately 7,000 lineal ft of new 12-inch sewer line will be required. Expansion of the existing lift station would also be required.	Approximately 13,300 lineal ft of new 12-inch sewer line (7,000 ft for Zones A-C + 6,300 ft for Zone D) will be required. An additional lift-station would be required near the north end	Approximately 4,050 lineal ft to 12-inch sewer main north of the property along SW Fourth St.
Peak flow available.	Approximately 300 gpm.	Approximately 300 gpm.	At least 1 mgd.
Description of planned or pending changes to capacity,	No changes to capacity are pending.	No changes to capacity are pending.	The city's capital improvement plan does not specially identify any major improvements at the wastewater treatment plant. However, the final results of the NPDES permit renewal process could result in changes to the
Estimated construction timeline.	Estimated 8 months. Including design and final approval.	Estimated 9 months (8 month for Zones A-C + 1 month for Zone D).	In general, the city anticipated design and permitting typically require between 4-6 months. Actual construction can take between 5-12 months. The city recommends a 1-1.5 year timeline for construction.
Estimated costs.	Estimated $1.7 million.	Estimated $3 million.	Estimated $595,000. Does not include a pump station which will be required near Zone D.
Other information on wastewater.	Industrial process water will require pre-treatment prior to discharge to the system.	Industrial process water will require pre-treatment prior to discharge to the system.	The city system discharges to the Snake River for six months out of the year (winter months) and land applies during the summer months. The discharge to the river requires a NPDES permit. The city is currently int eh process of renewing their permit.

Natural Gas

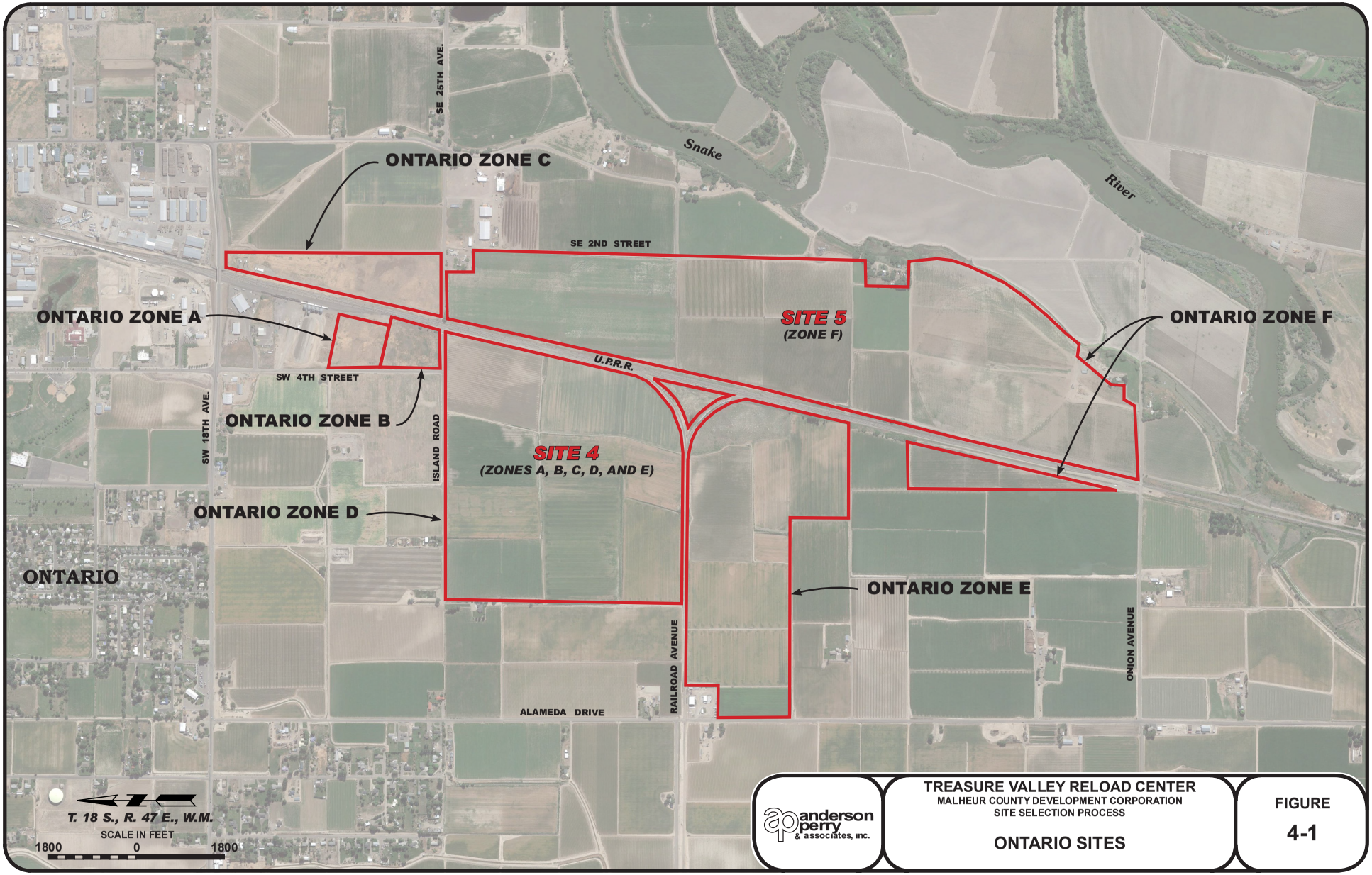
	Nyssa (Zone A-C)	Nyssa (Zone D)	Ontario (Zones A-E)
Current infrastructure on/around site.	A gas main is approximately 925 ft from the SW corner of Zone B that is adjacent to Arcadia Blvd.	A gas main is approximately 4,200 ft from the SW corner of Zone D that is adjacent to Arcadia Blvd.	A 2-inch gas main is adjacent to SW Fourth St. making it 805 ft from the NW corner of Zone A, 1,400 ft from the NW corner of Zone B, and 2,200 ft from north side of Zone D. Another 2-inch gas main is 3,200 ft from the NW corner of Zone E that is adjacent to Alameda Dr. There is another 2-inch gas main directly adjacent to Zone D on the South side of the right-of-way of
Gas line size (inches).	Gas main on Arcadia Blvd is a 2-inch steel main. Gas main on Columbia Ave is a 2-inch steel main. Both operating gat intermediate pressure.	2-inch steel main with intermediate pressure.	2-inch line that is operating at 45 psi.
Statement of explanation of contingencies possible for service enhancements to the site.	CNG engineering group will need to look at proposed gas loads an pressure requirements the industrial development would require. Once this information has been provided, their engineers can calculate if and what reinforcements are required for existing infrastructure.	CNG engineering group will need to look at proposed gas loads an pressure requirements the industrial development would require. Once this information has been provided, their engineers can calculate if and what reinforcements are required	CNG engineering group will need to look at proposed gas loads an pressure requirements the industrial development would require. Once this information has been provided, their engineers can calculate if and what reinforcements are required for existing infrastructure.
Estimated construction timeline.	Based upon what kind of reinforcement would be required to CNG infrastructure. For simple upgrades, 6 months, for a more involved upgrade 18-24 months. Durations can vary widely based upon permitting and what the extent of work is needed to reinforce existing systems.	Based upon what kind of reinforcement would be required to CNG infrastructure. For simple upgrades, 6 months, for a more involved upgrade 18-24 months. Durations can vary widely based upon permitting and what the extent of work is needed to reinforce existing systems.	Based upon what kind of reinforcement would be required to CNG infrastructure. For simple upgrades, 6 months, for a more involved upgrade 18-24 months. Durations can vary widely based upon permitting and what the extent of work is needed to reinforce existing systems.
Estimated construction price to extend high-pressure line to the site.	Aver cost of a 6-inch high pressure main is $360 per lineal foot. The nearest HP gas main is at the cornet of Hwy 201 and Columbia Ave. The approximate distance to the SW corner of Zone C is 3,900 ft. The cost then works out to be $1.4 million.	Aver cost of a 6-inch high pressure main is $360 per lineal foot. The nearest HP gas main is at the cornet of Hwy 201 and Columbia Ave. The approximate distance to the SW corner of Zone D is 7,900 ft. The cost then works out to be $2.844 million.	Aver cost of a 6-inch high pressure main is $360 per lineal foot. The nearest HP gas main is at the cornet of Hwy 201 and Railroad Ave. The approximate distance to the NW corner of Zone E is 5,700 ft. The cost then works out to be $2.052 million. To serve Zone D the cost would be
Other information.	CNG has a tariff that allows CNG to help pay for a portion of a reinforcement that might be needed for this location. Rule 10 - Main Installations alls CNG to invest up to 4.5x the estimated annual gross, annual revenue less cost of gas. If there is still a cost for the reinforcement then it will need to be collected before the work can being. These is a possibility of a refund if another customer was tied into the new main that was extended to the property within 5-years.	CNG has a tariff that allows CNG to help pay for a portion of a reinforcement that might be needed for this location. Rule 10 - Main Installations alls CNG to invest up to 4.5x the estimated annual gross, annual revenue less cost of gas. If there is still a cost for the reinforcement then it will need to be collected before the work can being. These is a possibility of a refund if another customer was tied into the new main that was extended to the property within 5-years.	CNG has a tariff that allows CNG to help pay for a portion of a reinforcement that might be needed for this location. Rule 10 - Main Installations alls CNG to invest up to 4.5x the estimated annual gross, annual revenue less cost of gas. If there is still a cost for the reinforcement then it will need to be collected before the work can being. These is a possibility of a refund if another customer was tied into the new main that was extended to the property within 5-years.

Power

	Nyssa (Zone A-C)	Nyssa (Zone D)	Ontario (Zones A-E)
Current infrastructure on/around site.	Nyssa Substation located in Nyssa south of property. 69kV transmission line runs north and south along west site of the property.	Nyssa Substation located in Nyssa south of property. 69kV transmission line runs north and south along west site of the property.	Cairo Substation located dire try north of the site. 69kV transmission line runs both and south along Alameda Dr. 230 kV transmission line is located east of the site.
Distance to nearest substation.	1.21-1.45 miles	1.76 miles	0.64-1.88 miles
Current capacities on infrastructure around the site.	3 MW	3 MW	1.9 MW
Planned or pending investments to impact site capacities.	Not at this site.	Not at this site.	Not at this site.
Estimated construction timeline.	Unable to determine without more information.	Unable to determine without more information.	Unable to determine without more information.
Estimated costs.	Distribution upgrades estimated between $286,000-$333,000.	Distribution upgrades estimated at $442,000.	Distribution upgrades estimated between $100,000-$200,000.

Site Selection Conclusion

At the conclusion of the site selection process, the Nyssa Zones A, B, and C site, and the Nyssa Zone D site were deemed the most suitable for future consideration for the TVRC. These two sites are both adjacent to the UPRR main line and are close to the City of Nyssa. They are also close to State Highway 20. Thus, both sites can be reasonably served by the City's water and sewer systems and the state of Oregon highway system for truck access. As the project moved forward with initial due diligence and preliminary engineering (as outlined in Section 6), the Nyssa Zone D property became the preferred site for the TVRC. The Zone D property was preferred because of its available acreage, lack of environmental issues, and the availability of nearly 7,000 feet of rail spur along the UPRR main line in an area free of public rail crossings. The 7,000 feet of clear area for the rail spur is a requirement of the UPRR for operation of a full unit train without impacting the adjacent main line. Of the remaining two Nyssa sites under consideration, the Zone D property is the only site that can utilize a full 7,000-foot rail spur without impacting a public rail crossing. Further details outlining the advantage of the Zone D property are summarized in Section 6.



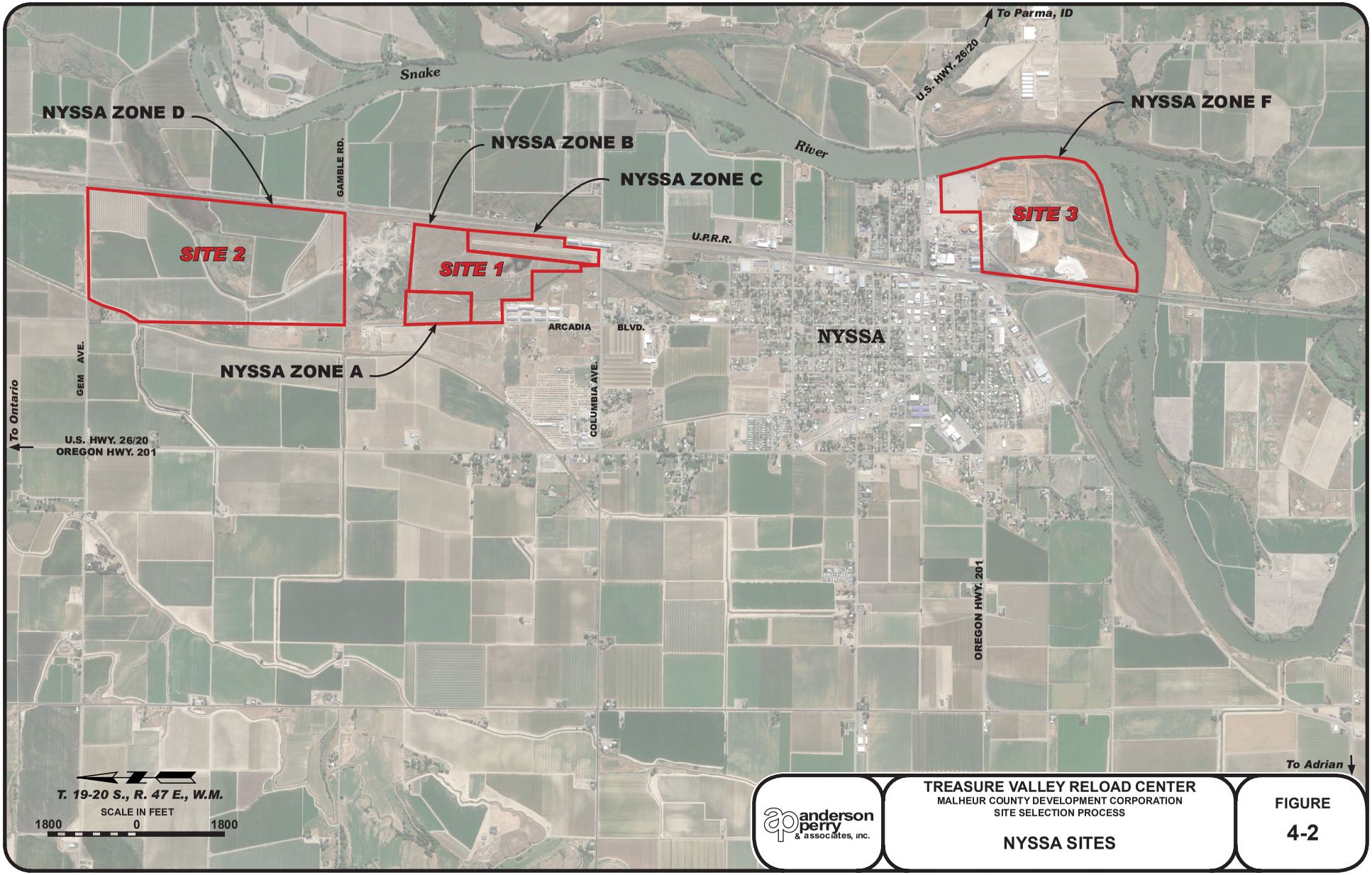
anderson perry & associates, inc.

TREASURE VALLEY RELOAD CENTER
MALHEUR COUNTY DEVELOPMENT CORPORATION
SITE SELECTION PROCESS

ONTARIO SITES

FIGURE
4-1

Job# 1199-680-021 Sep. 21, 2018 lbauer



anderson perry & associates, inc.

TREASURE VALLEY RELOAD CENTER
MALHEUR COUNTY DEVELOPMENT CORPORATION
SITE SELECTION PROCESS

NYSSA SITES

FIGURE 4-2

Job# 1199-680-021 Sep. 21, 2018 lbauer

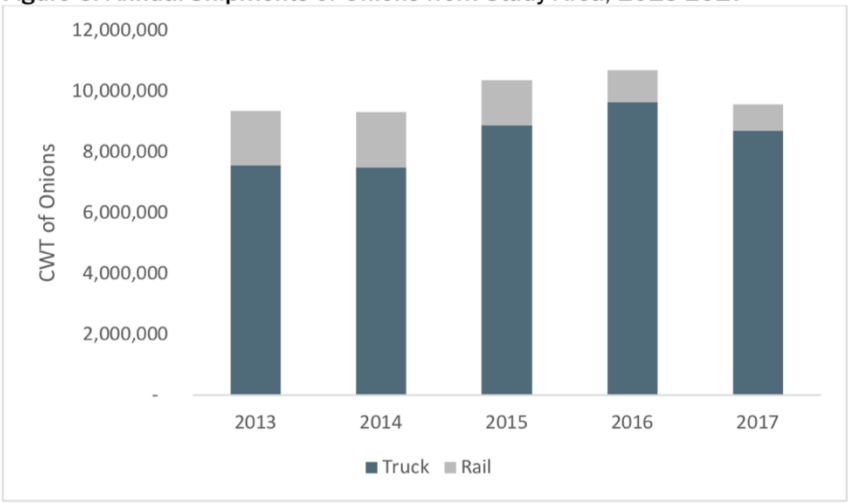
[Insert Tab 5: Market Feasibility Analysis]

5. Market Analysis

Assessment of Commodities and Products to Be Served and Likely Destinations

Onion production and export emerged as a driving theme during the stakeholder interviews. Due to the heavy influence of this commodity in this region, it is important to understand the market demand, growing and shipping conditions, and trends for onion production.

Figure 5. Annual Shipments of Onions from Study Area, 2013-2017



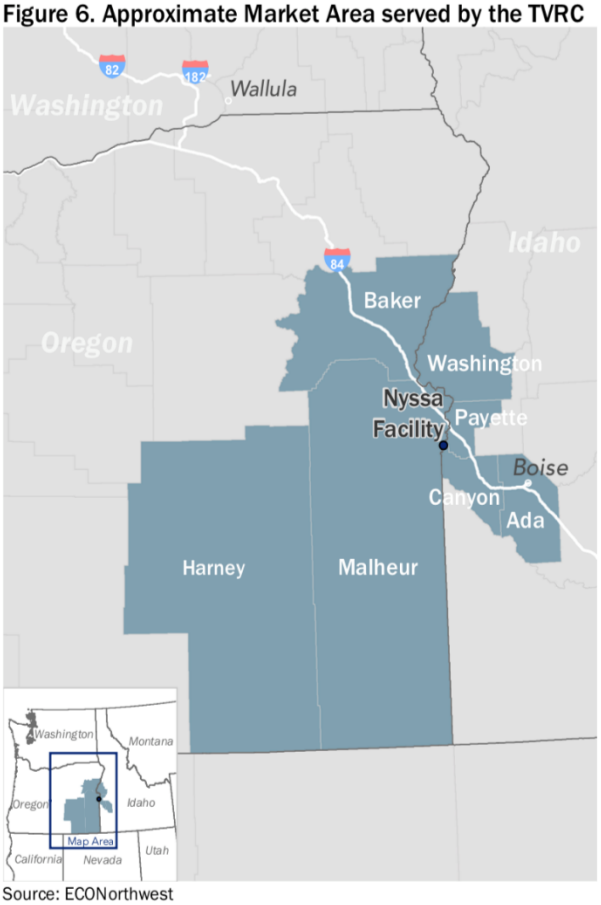
Source: ECONorthwest analysis of USDA Specialty Crop Data

There are three primary clusters of onion production: one geographically located near Wallula, Washington, another in southwest Oregon, and a third in the Treasure Valley, centered around Ontario, Oregon. The Treasure Valley collectively grows over 40 percent of the onions in the Pacific Northwest, with over 19,000 acres harvested each year. Over the past five years, an average of 9.9 million CWT29 (490,000 U.S. tons) of onions has been shipped out of the region each year to customers throughout the United States.

Given the intersection between the driving distances outlined in Figure 4 and regional onion production, the study area is defined as Baker, Harney, and Malheur counties in Oregon, plus Washington, Payette, Canyon, and Ada counties in Idaho (see Figure 6 on the right).

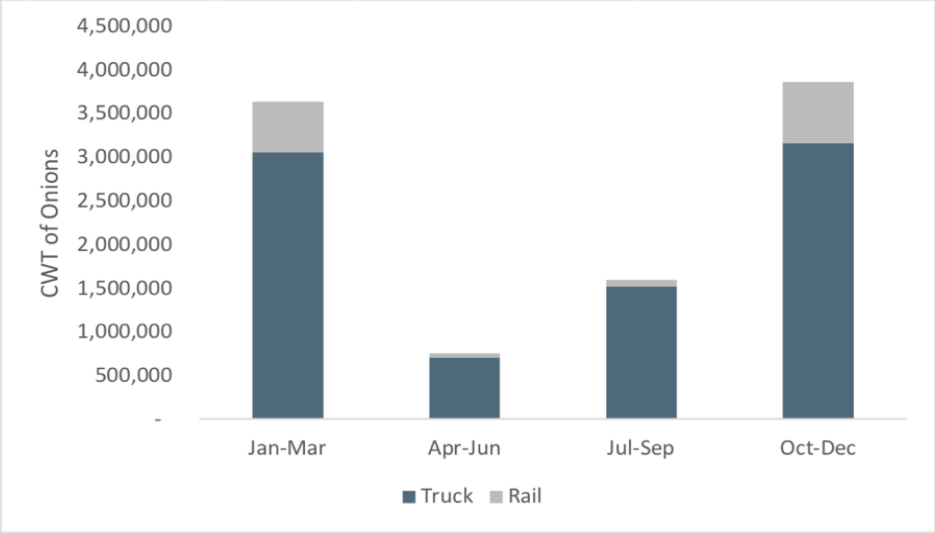
Onions are a seasonal commodity, planted in March and April and harvested in late July through late September.30 Onions are usually dried on the field or in storage and shipped year-round beginning in October. Refrigerated storage and refrigerated shipping allows producers to store and ship onions almost year-round, with the lowest shipping occurring during the spring and summer (see Figure 7 below).

Figure 6. Approximate Market Area served by the TVRC



Source: ECONorthwest

Figure 7. Quarterly Onion Shipments out of the Study Area, 2013-2017

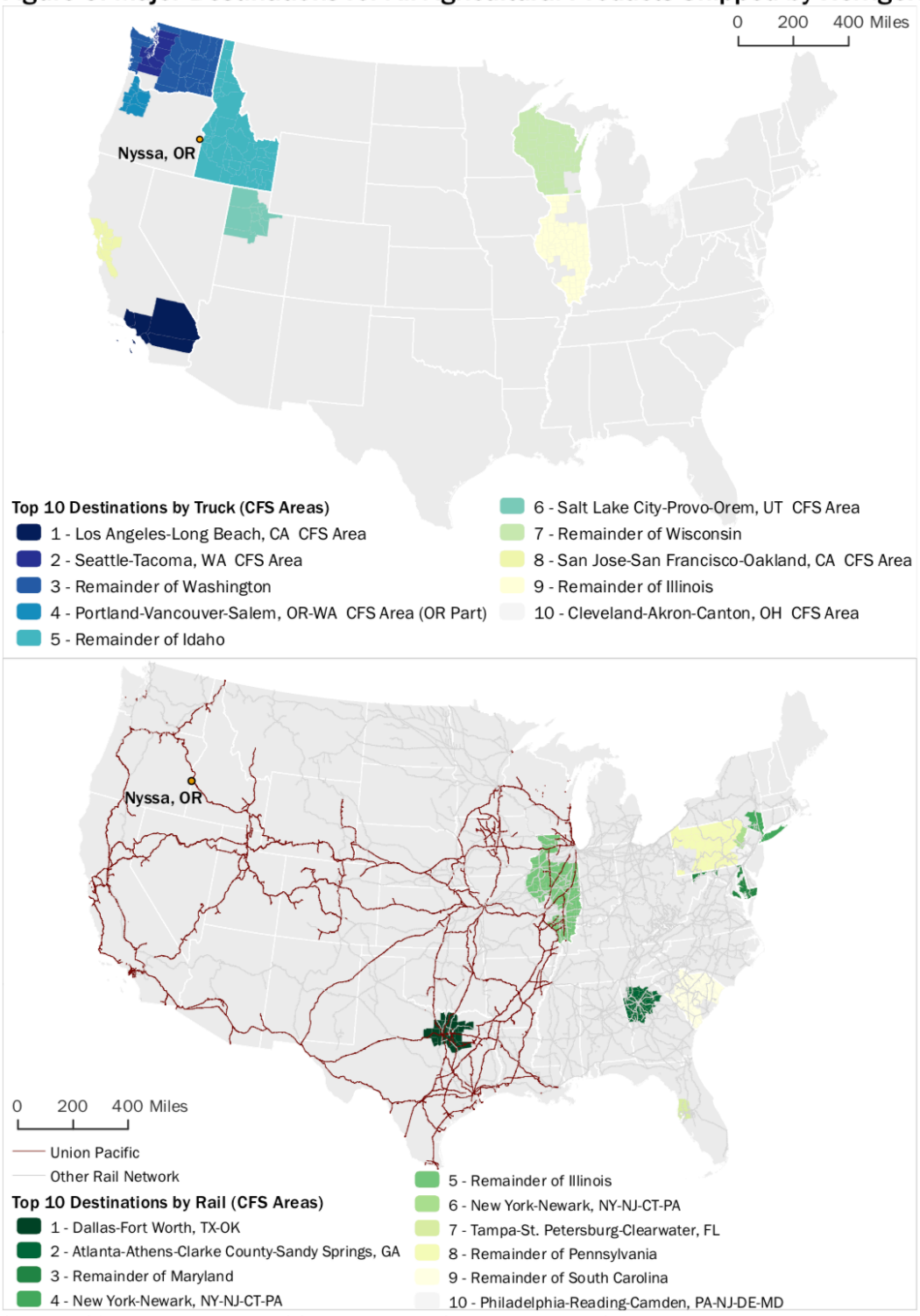


Source: ECONorthwest analysis of USDA Specialty Crop Data

Other agricultural commodities are produced in the region and dwarf the production of onions by acres harvested (Figure 8). However, the stakeholder interviews did not indicate that these products would likely pass through the TVRC as currently envisioned. Future expansion and other types of service (including the hay press and loading facility discussed during the stakeholder interviews) may accommodate these other products, however they are not included in this analysis.

Agricultural products produced in the region are shipped to a broad set of domestic customers, with southern California and the upper Midwest (Illinois and Wisconsin) serving as the primary destinations for truck shipments. Dallas, Atlanta, and the mid-Atlantic (Maryland, Pennsylvania, and New Jersey/New York) serving as primary destinations for rail shipments. Figure 9 shows the major shipping destinations for all agricultural products produced in the region, shipped by refrigerated truck and rail. While these figures represent all agricultural products, the participants of the stakeholder interviews indicated that the onions they ship predominantly move east of Oregon.

Figure 9: Major Destinations for All Agricultural Products Shipped by Refrigerated Truck and Rail



Source: ECONorthwest analysis of Commodity Flow Survey data, All Refrigerated Movements

Assessment of Anticipated Market Area Served

The literature review and stakeholder interviews indicate that the economic advantage to transferring products from truck to rail are a function of the relative cost of each mode. Furthermore, it is strongly evident that the ability to move products to their final destination within a single "turn" (i.e. local trucking shipment) is a factor in shipping mode. The distance that a truck can travel within a day is used to inform the likely geography of the users of the MVIP.

Existing regulations require truckers to follow four driving limits at all times:

- Drivers may not work more than 60-hours within 7-days, or 70-hours within 8-days.
- Each workday is limited to a 14-hour "driving window" regardless of what the driver is doing (resting, waiting at a port, etc.)
- Each workday "driving window" limits actual drive time to 11-hours.
- Lastly, drivers must take a 30-minute rest break if 8 consecutive hours have passed since the last off-duty period of at least 30 minutes.

These rules impose a discrete distance threshold that determines whether a shipment travels on a local truck or a long-distance truck. Taking an allowance for uncertainty, this threshold occurs at approximately the 5-hour one-way driving mark, displayed in Figure 4 on the right.

Figure 4: Area within a 5-hour drive of Nyssa, Oregon

Source: ECONorthwest

Nyssa, Oregon, sits in a geographic location that allows agricultural producers in the region to consolidate their products efficiently. There are two primary substitute reload facilities with rail access: the ColdConnect facility in Wallula, Washington (near Walla Walla), and rail terminals in Salt Lake City, Utah. Upon construction of the TVRC, shippers in the total shaded area will be able to transfer their goods by truck within a single working day. Those shippers also located within a 5-hour drive of the substitute facilities will make decisions based on the relative cost, timeliness, and reliability.

Assessment of Market Share in Ares to Utilize Facility

In the Treasure Valley, producers ship their products to several different destinations, primarily by truck. Limited options for rail exist (i.e., a limited number of shippers have direct access to a rail siding, while others can truck products to the ColdConnect Facility in Wallula, which then travel by train to their final destination). However, the proximity and ease of service potentially provided by the TVRC presents a new transportation alternative.

Numerous factors determine the choice between different modes, including time, reliability, volume, destination, and cost. Although the TVRC offers a new method for transporting goods, it is not expected to modify the underlying preference structure for transportation. Additionally, since a number of similar transportation options exist in the region, existing data can be used to predict the likely utilization of the TVRC.

Figure 10: Conceptual Model Process

Source: ECONorthwest

A sequential process utilizing multiple data sources is outlined in Figure 10 below. Shipping costs by both truck and rail are calculated using observed prices from the U.S. Department of Agriculture (USDA) Agricultural Refrigerated Truck Quarterly (AgRTQ)32 and the Surface Transportation Board Carload Waybill Sample,33 respectively. These observed costs are used to predict shipping cost for all agricultural products shipped from the region in the United States Census' Commodity Flow Survey. 34 These inputs are then combined in an econometric model that predicts the mode and site-choice decision for all agricultural shipments in the region. The results of this model are then applied to a scenario representing the TVRC to predict the share of shipments traveling by rail. This result is then applied to an estimate of onion production in the region from USDA Specialty Crop data to predict the quantity of agricultural goods passing through the facility.

Each step utilizes the best available information to construct an estimate of the projected demand for the TVRC. Although the spatial resolution at each step is broader than the Treasure Valley in most cases, the underlying information is transferable to the region. In particular, estimation of latent demand for the TVRC (where none currently exists) necessitates the use of data from outside of the region. Each element is further described in the following sections.

Costs

The costs to transport agricultural products from the Treasure Valley to areas throughout the United States are subject to fluctuating market conditions. Various factor inputs affect the absolute and relative price of both truck and rail, including the availability of equipment, labor costs, fuel costs, state and federal regulations, etc. A competitive market generally provides trucking services with many players and relatively low barriers to entry. Economic theory suggests that the market price for trucking services will approximately equal the marginal cost of providing those services. Rail services in the region, on the other hand, are provided by one company (and its subsidiaries), providing the opportunity for price-taking behavior, as well as strategically induced artificial scarcity.

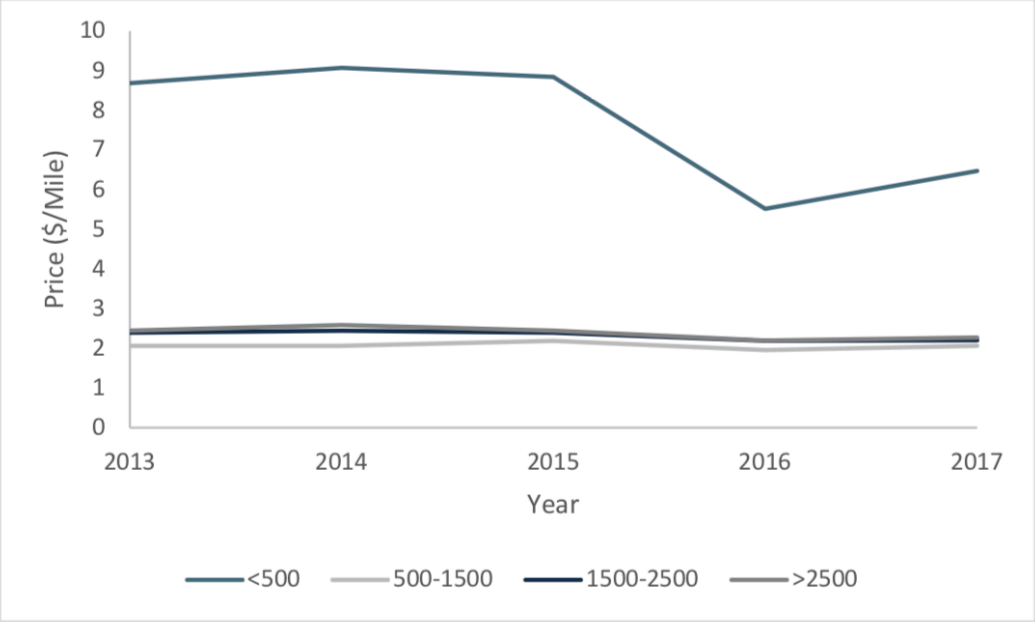
Truck and rail services generally operate as substitutes for transporting agricultural goods throughout the country. There are, however, a number of efficiencies that each mode offers. Rail gains a structural competitive advantage when transporting large volumes over long distances, while trucking services are generally faster and more flexible for small loads, albeit at a higher cost. These market forces are apparent when evaluating predicted marginal per-mile refrigerated transportation prices.

Trucking costs faced by shippers in the study region are derived from the AgRTQ. Quarterly refrigerated trucking rates per-mile are reported by origin and distance bands defined as:

- Local: 500 miles and less (e.g. Portland, OR; Seattle, WA),
- Short: between 501 and 1,500 miles (e.g. Oakland, CA; Los Angeles, CA),
- Medium: 1501 and 2,500 miles (e.g. Chicago, IL; Dallas, TX; Atlanta, GA), and
- Long: greater than 2,501 miles (e.g. Newark, NJ; Tampa, FL; Boston, MA).

As indicated in Figure 11 below, rates per mile for the short, medium, and long-distance bands are fairly equivalent at an average of $2.26 per mile and fairly consistent across time, while local distance band rates are roughly four times as high. Local trucking rates experienced a decline in 2016 and 2017 from previous years.

Figure 11. Refrigerated Trucking Prices from the PNW, by Distance Traveled, 2013-2016



Source: ECONorthwest analysis of USDA Refrigerated Truck Quarterly Data

To generate a cost structure for rail, rates were obtained from the most recent complete version (2016) of the Surface Transportation Board Carload Waybill Sample. This dataset is a "stratified sample of carload waybills for all United States rail traffic submitted by those rail carriers terminating 4,500 or more revenue carloads annually."35 The unrestricted public-use version of this dataset partially obscures geographic information to make it impossible to trace individual observations back to shippers. To best represent the market prices faced by shippers in the region, observations were restricted to refrigerated rail cars (STB car type "44") with origins in the Pacific Northwest (i.e. WA, OR, and ID) and any domestic destinations in the continental United States. This resulted in 547 observations, each with an individual sampling weight, ultimately representing 14,104 shipments. Summary statistics are presented in Figure 12 on the following page.

Figure 12: Carload Waybill Dataset, Summary Statistics, 2013-2017

Variable	Mean	Std. Dev.	Min	Max
Miles	1968	759	30	3440
Tons	68	17	4	100
Freight Charge	$11,969	$5,066	$875	$29,995
Rate/Mile	$9.66	$12.81	$0.41	$70.70
Rate/Ton	$197	$191	$18	$2,927

Source: ECONorthwest analysis of STB Carload Waybill Sample, 2013-2017

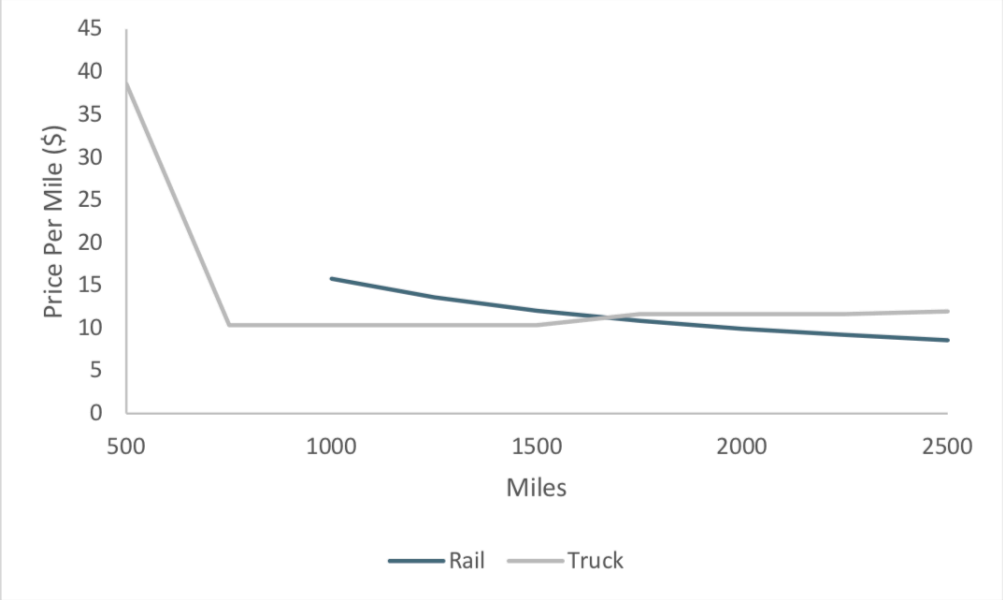
To predict price to ship by rail for each origin-destination pair in the region, a truncated linear regression model is applied to the public waybill sample. The general specification is

where ε is distributed normally.

$$E[Rate_{Mode}|Rate_{Mode} > 0] = (\ln(Miles), \ln(Tons), Quarter)'\beta_i + \varepsilon,$$

The relative average price per mile between truck and rail is a function of distance and volume, with higher volumes and longer distances resulting in lower average rail pricing. A comparison of the shipping costs for a load equal to five trucks is presented in Figure 13 below. The point at which the average per-mile rail price drops below the trucking price occurs for shipments between 1,500 and 1,750 miles.

Figure 13. Refrigerated Transportation Prices from the Pacific Northwest, by Truck or Rail, 5-Truck Equivalent Loads, 2013-2017



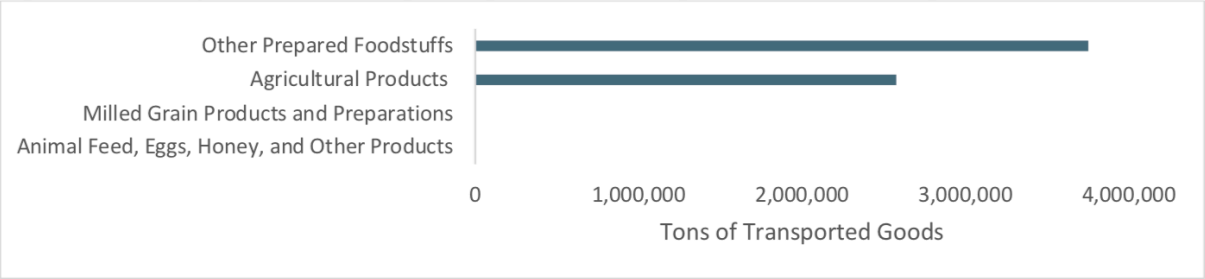
Source: ECONorthwest analysis of STB Carload Waybill Sample, 2013-2017

This point occurs at a shorter distance for larger loads (i.e. less than 1,000 miles for 10 truck equivalent loads), and at a further distance for smaller loads (i.e. more than 2,000 miles for four- truck equivalent loads). According to this cost structure, it is never cost effective to ship by rail from the study area for less than four-truck equivalent loads, indicating the significant market and customer consolidation is necessary for cost-effective utilization.

Shipments

The United States Census conducts the Commodity Flow Survey every five years to measure how products move through, in, and out of the United States. Since this data is a stratified random sample, it can be used to represent the mode and destination choice decision for shippers in the eastern Oregon. It is a broad dataset with a large number of regions, products, and shipping modes. A number of steps are taken to filter the observations down to a set of goods that most closely mirrors those being shipped in the study area. These parameters were chosen to be inclusive of all potential users of the TVRC, as well as competing users of refrigerated trucks and rail cars. The universe of goods in the 2012 survey37 was restricted to non-hazmat agricultural goods traveling in temperature-controlled trucks or rail cars, and originating in eastern Oregon, eastern Washington, or Idaho. This results in 5,418 observations, primarily agricultural and “prepared foodstuff” products, summarized in Figure 14 below.

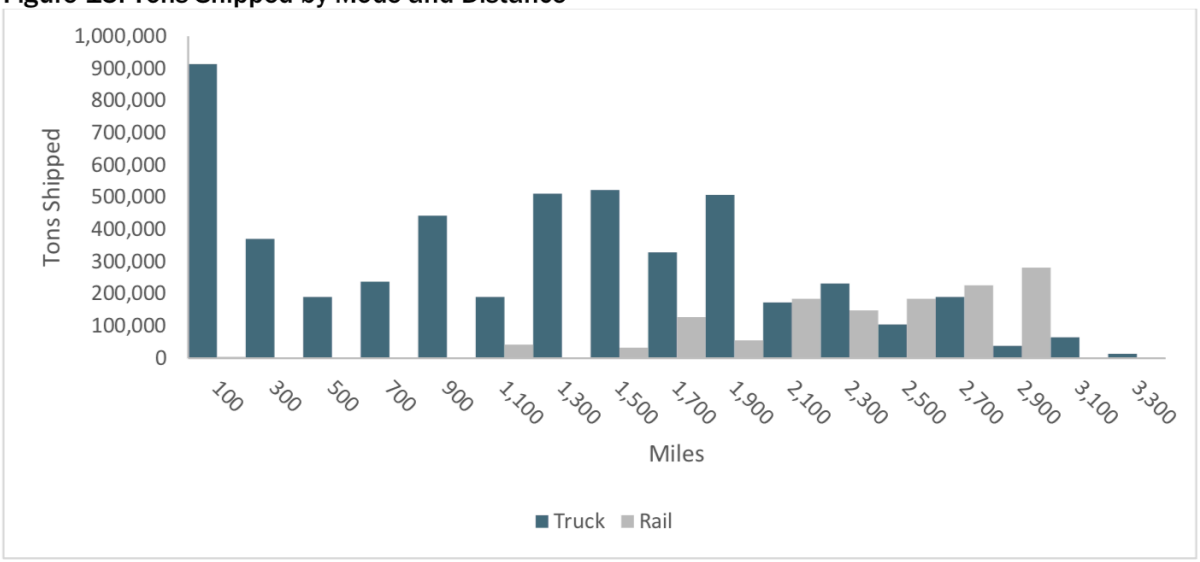
Figure 14: Transported Goods Originating in Eastern Oregon, Eastern Washington, and Idaho



Source: ECONorthwest analysis of 2012 Commodity Flow Survey Data

These products were shipped by a mix of rail and truck across a wide distance band. Although approximately 80 percent of goods travel by truck, a greater share travel by rail for the long- distance transits. Figure 15 summarizes the distribution of tons shipped by mode and distance.

Figure 15. Tons Shipped by Mode and Distance



Source: ECONorthwest analysis of 2012 Commodity Flow Survey Data

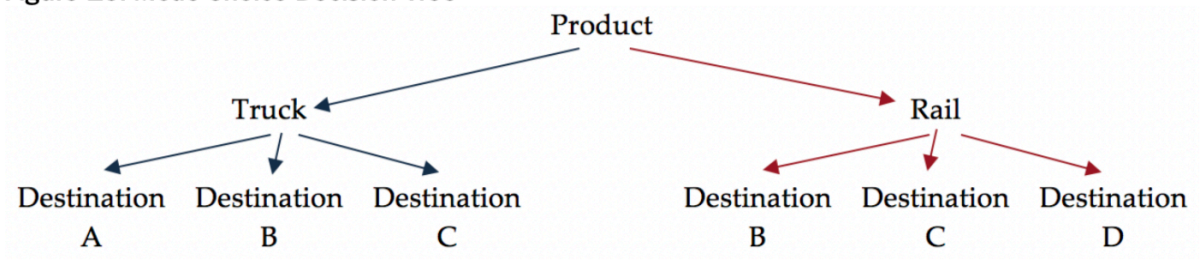
Econometric Model

The literature review and stakeholder interviews both revealed numerous factors that determine the mode selected to ship goods, with price, availability of rail cars, transit time, and customer location indicated most frequently. The evaluation of shipping prices found that rates are widely variable, particularly concerning mode, weight, and distance. Due to this wide variety of factors, along with an additional likely set of unobservable effects, a simple minimum-cost financial model is not sufficient to predict demand for the services provided by the TVRC. Instead, a full representation of the choice structure is necessary.

A nested-logit model is used to jointly evaluate a shipper's mode and site-choice decision. This approach incorporates the set of decisions outlined in Figure 16 below. Black arrows on the left represent the current mode and destination alternatives, and the TVRC is represented by the set of red arrows on the right. A shipper jointly selects the mode (i.e., Truck or Rail) and the destination (A, B, or C). Each mode may provide access to a different set of destination, with truck able to serve a broader set of destination, and rail more likely to serve some destinations that are further away and have direct rail access. A set of independent variables can be incorporated at each nesting level to describe the

motivators of both mode and site choice. This entire choice structure can then be applied to the TVRC to predict the share of products that will get shipped by rail. This type of discrete choice model uses attributes of the decision process to predict the probabilities of each of the limited number of available choices made. In this context, these choice probabilities can be interpreted as mode shares.

Figure 16. Mode-Choice Decision Tree



Source: ECONorthwest

The nested logit model is particularly attractive for this application because it allows for a rich set of possible substitution patterns. The model assumes that a given shipper, *i*, receives economic profit38 p from shipping their product to a given destination, *j*, via mode *Bk*.39 This takes the functional form:

$$\pi_{ij} = V_{ij} + \varepsilon_{ij},$$

where *V* is a set of observable variables while *ε* is unobservable and assumed to have a cumulative distribution:

$$exp\left(-\sum_{k=1}^{K}\left(\sum_{j\in B_k} e^{-\varepsilon_{ij}/\lambda_k}\right)^{\lambda_k}\right).$$

The parameter *λ*X is a measure of the degree of independence among the variables within a nest. The probability of shipper *i* choosing destination *j* via mode *k* can now be calculated as:

$$P_{ij} = \frac{e^{V_{ij}/\lambda_k}\left(\sum_{j\in B_k} e^{V_{ij}/\lambda_k}\right)^{\lambda_k - 1}}{\sum_{k=1}^{K}\left(\sum_{j\in B_k} e^{V_{ij}/\lambda_k}\right)^{\lambda_k}}.$$

This model is applied to CFS data, and the quarterly rail and trucking price functions developed earlier in Section 5.2.

Distance and value per ton exhibit characteristics of a log-normal distribution, with a cluster of values at the relatively low end of the spectrum and a small number of very large values at the high end. These variables are logged in the specification, and state fixed effects are used to represent unobservable variation in shipping characteristics between Washington and Oregon. Results are displayed in Figure 17 below. All coefficients are strongly statistically significant, with price taking an expected negative sign (indicating that destinations that are more expensive to ship to are selected less often). At the mode-choice nest, the log of distance has a positive coefficient, while the log of value per ton has a negative coefficient, indicating that lower-value products that are traveling further are more likely to be shipped by rail.

Figure 17. Nested Logit Model Results

		Coefficient	Standard Error	[95% Confidence Interval]	
Site Choice Nest					
	Price	-0.0013	0.0000	-0.0013	-0.0013
Mode Choice Nest					
Truck	(base)				
Rail					
	Ln Distance	1.02	0.01	1.00	1.05
	Ln Value Per Ton	-0.89	0.01	-0.91	-0.86
	State Fixed Effects				
	Idaho	-1.88	0.05	-1.98	-1.78
	Washington	-1.77	0.05	-1.86	-1.67
	Oregon (base)	-	-	-	-
Dissimilarity Parameters					
	/truck_tau	0.40	0.01	0.39	0.41
	/rail_tau	1.40	0.01	1.27	1.52
Log likelihood		-3,009,211			
Wald chi2(5)		45,123			

Source: ECONorthwest

To ensure an appropriate representation of the mode-choice decision, a number of specifications were tested; ultimately a parsimonious model was used to avoid researcher-induced variable selection bias.

Scenario Analysis

The econometric model serves as a representation of the existing origin-mode-destination decision structure for shippers competing in the same market as those in eastern Oregon. Construction of the TVRC will introduce a new mode alternative with an equivalent set of unobservable attributes (e.g., timeliness and reliability) as the existing rail alternative, albeit with a different overall cost function. Thus, to predict the amount of goods shipped by rail from the TVRC, the cost function in the existing model is modified to represent the new facility. In particular, the price of rail is reduced by the marginal cost to ship goods 235 miles by truck from Nyssa to the existing ColdConnect facility in Wallula, Washington and increased by the marginal cost to ship goods by rail over that equivalent distance. When applied to the CFS data used in the nested logit model, shippers observe an average price decrease of $326 (30 percent decline) for all rail-mode origin-destination pairs. This results in the econometric model predicting that approximately a quarter of goods will travel by rail, with significant seasonal variation.

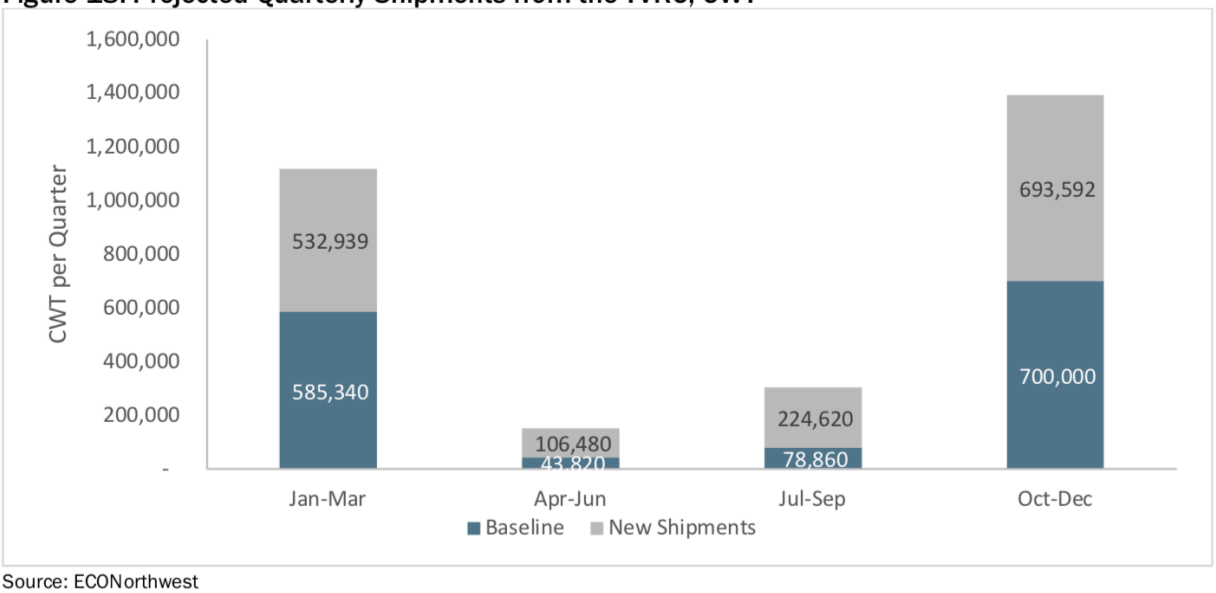
Projection

The econometric model represents the set of preferences for transportation services in the region. This model is then applied to an estimate of the number of onions shipped out of the Malheur County, OR and adjacent areas in Idaho, calculated using USDA Specialty Crop production data.

There are two estimated sources of products that may pass through the facility: 1) products that currently travel out of the study area by truck, and 2) products that currently travel out of the study area using existing rail sidings and infrastructure in the region. The former can be thought of as "new" shipments, while the latter is a baseline estimate of rail use in the region. It is unclear whether the existing baseline shipments will shift from existing rail infrastructure and use the TVRC. For the purposes of this analysis, it is assumed that the facility will capture all rail shipments of onions out of the region.

When applied to USDA Specialty Crop production data, the econometric model predicts that nearly 3 million CWT of onions will utilize the facility, with significant seasonal variation as illustrated in Figure 18 below. Approximately 79 percent of the shipments will take place between October and March. The estimate is predicated on the assumption that the facility operates efficiently, is priced at market rates, and provides a level of service equivalent to that currently available throughout the region.

Figure 18. Projected Quarterly Shipments from the TVRC, CWT



Source: ECONorthwest

Rail cars vary in size, and depending on loading technique, can carry different volumes. Quarterly shipments in CWT, 1,200 CWT capacity rail cars, and 1,600 capacity rail cars are shown in Figure 19 below. This amounts to 86-107 thousand CWT per week, and depending on the size of the rail car, anywhere between 54-89 rail cars per week in the high season.

Figure 19. Projected Quarterly Shipments out of the Treasure Valley Reload Center

Quarter	Shipments (CWT)	Rail Cars (1,200 CWT)	Rail Cars (1,600 CWT)
Jan-Mar	1,118,000	932	699
Apr-Jun	150,000	125	94
Jul-Sep	303,000	253	189
Oct-Dec	1,394,000	1,162	871

Source: ECONorthwest

Exogenous Factors that May Affect Demand

The validity of these projections is conditional on the facility operating in a manner that provides a level of service equivalent to existing rail services in the region. Aside from this operating assumption, there are a number of exogenous factors that may affect these projections. Changes in commodity value, trucking prices, and production volumes may influence shipper mode choice, and ultimately, the volume of commodities passing through the facility.

Commodity Value Fluctuations

The relative value of commodities affects the relatively likelihood of a shipper choosing rail or truck to move their products. As seen in the nested logit model results in Figure 17 above, lower value products are more likely to move by rail. Goods that have a higher time value are more likely to move by truck. As the relative price of onions increases or decreases, respective mode choice is expected to change as well.

Trucking Price Changes

The stakeholder interviews indicated that the price of the facility must be competitive with other transportation options for it to be utilized. This price of available substitute services provided by the facility has a strong likelihood of either increasing or decreasing utilization. Three are a number of factors contributing to changing trucking prices, including restrictions on hours of service, a decrease in the number of available truck drives, and parking shortages. Other factors, such as changes in fuel costs may also influence the relative price of trucking.

Production Volumes

Agricultural production is highly variable and is a function of both pre-season crop acreage allocations, as well as environmental conditions including temperature, rainfall, and solar intensity. Shifts in acreage from other crops to onions, increased rainfall during the summer, or a longer growing season may increase crop yields and resulting demand for the TVRC.

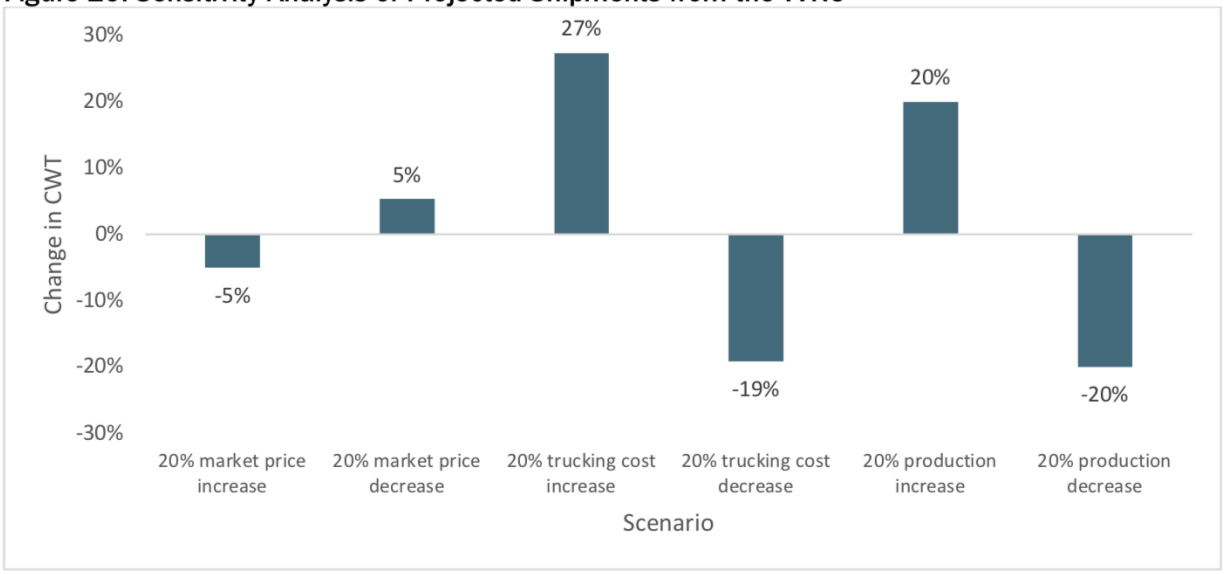
Sensitivity Analysis

While explicit quantification of these exogenous factors is difficult to perform with certainty, it is possible to evaluate the magnitude that each of these changes may have on the volume of agricultural products passing through the TVRC. Each of the above listed effects may operate independently or jointly, and of a currently unknown magnitude. In order to test the implications of a number of difference changes in macroeconomic conditions, a generic set of value, price, and production changes are analyzed. Six potential stylized scenarios are evaluated to test the sensitivity of the econometric model to exogenous effects. Each is listed below, along with an example of a potential cause of such a change:

1. A 20 percent increase in the market price of shipped commodities (example: decline in production in other regions)
2. A 20 percent decrease in the market price of shipped commodities (example: decline in demand for onions)
3. A 20 percent increase in truck transportation costs (example: decrease in the number of available truck drivers)
4. A 20 percent decrease in truck transportation costs (example: decrease in fuel costs)
5. A 20 percent increase in production (example: shift in acreage from other uses to onions)
6. A 20 percent decrease in production (example: drought)

Each scenario is designed to capture the net effect of many different exogenous factors and is evaluated independently. The results are displayed in Figure 20 below.

Figure 20. Sensitivity Analysis of Projected Shipments from the TVRC



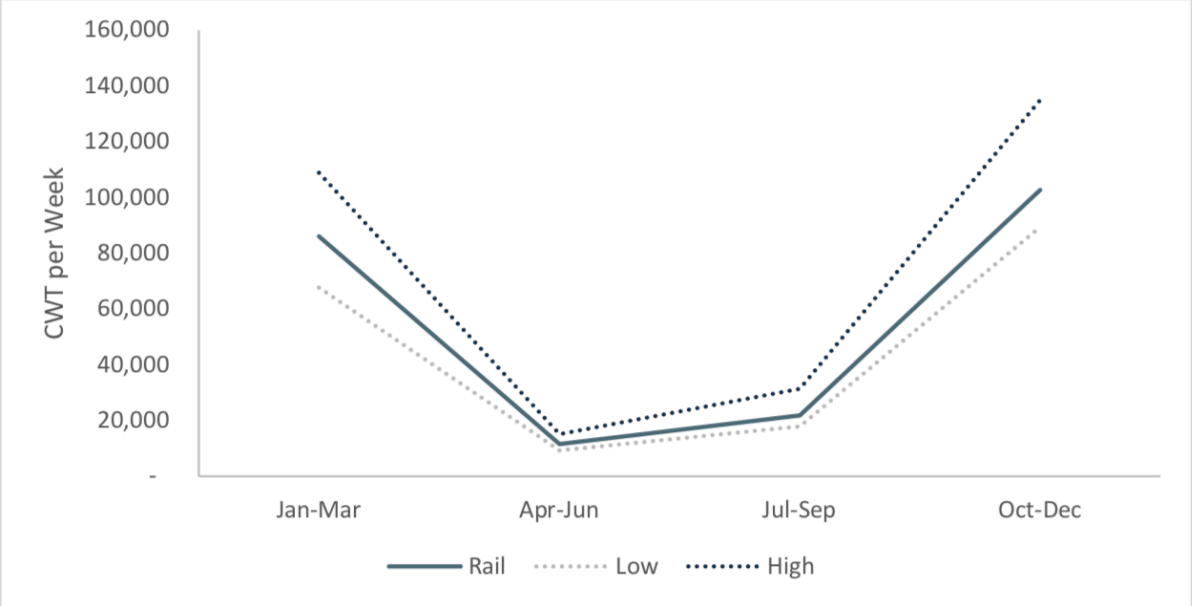
Source: ECONorthwest

The first two scenarios evaluating a change in the market price of goods have a converse effect on the volume shipped from the facility. An increase in the market price of the products being shipped will lead to a larger share of the products being shipped by truck, with the timeliness and reliability of trucking outweighing it's potentially increased price.

The second two scenarios evaluating a change in trucking prices have a dramatic positive effect on the use of the facility. A 20 percent increase in trucking costs will lead to a 27 percent increase in the volume of product traveling by rail, while a 20 percent decrease in trucking costs will lead to a 19 percent decrease.

The final two scenarios have a direct one-to-one effect on the volume shipped from the facility. Assuming that a change in production does not affect market prices or trucking costs, the allocation of product between truck and rail will not change. The change in the volume passing through the facility will mirror the change in production.

Figure 21. Projected Weekly Shipments from the TVRC, Scenario Analysis



Source: ECONorthwest

Each of these scenarios impact the quarterly projections of the econometric model. Figure 21 above shows the estimated weekly CWT shipped, with the highest and lowest scenarios plotted alongside. This projection estimates a wide range of potential use of the facility depending on seasonal and exogenous effects, with 67 to 135 thousand CWT shipped from the facility per week in the peak season, and 9 to 31 thousand CWT shipped per week in the low season.

Assessment of Anticipated Transportation Cost Savings Generated by Use of the Facility

Construction of the TVRC has the potential to generate cost savings, both to private users of the facility as well as to the general public. The following sections use inputs from Sections 5 and 6, along with information from federal regulatory impacts analyses to estimate the anticipated savings to Oregon's transportation network. All calculated values are estimates that demonstrate appropriate scale and are rounded to the nearest thousandth to implying undue precision.

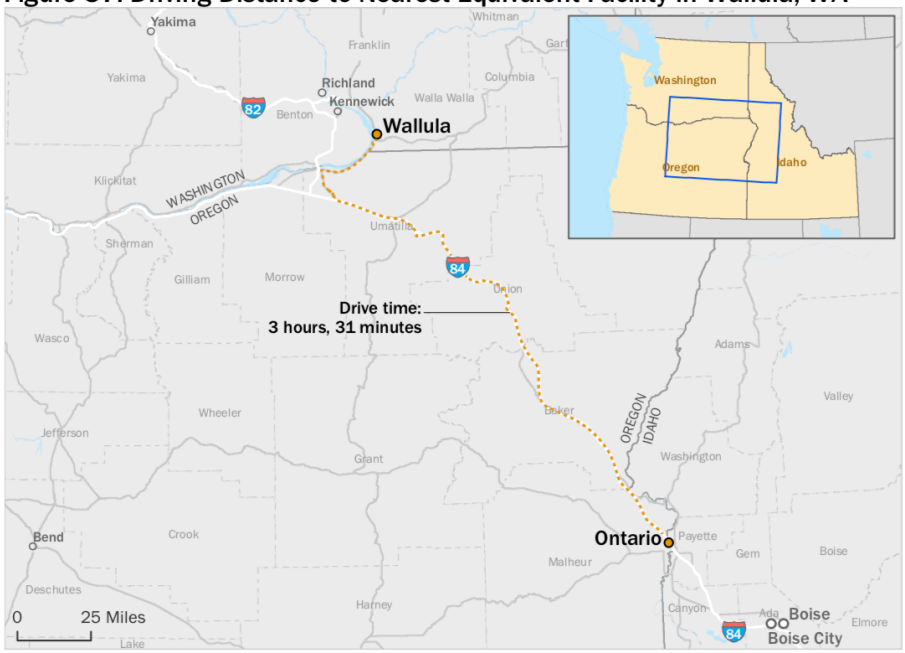
Private Benefits

Private transportation cost savings may accrue to users of the facility who face lower transportation costs than current alternatives. These benefits only accrue if user fees are lower than alternative shipping modes that provide the same level of service. Although, generally, rail per-mile transportation costs are lower than truck for large volumes over long distances, these lower costs may not always be observed at the TVRC. There are many underlying economic reasons this might not occur, including scarcity induced by the capacity of the facility and availability of substitutes. Since the facility is being constructed at a scale that is incapable of handling the total volume of products shipped in the region, competition for available capacity will occur, resulting in pricing that most efficiently allocates that capacity. Furthermore, the current mix of shipping alternatives will continue to exist, allowing growers and shippers to choose the alternative that provides the best level of service, reliability, and timeliness necessary. Calculation of the scale of anticipated private benefits, however, can be performed using expected trucking costs and a basic set of assumptions on markets served.

Framework

Section 5 above calculates the estimated demand for the facility. As described in Figure 18, a portion of that demand comes from existing rail service in the region, while an additional portion comes from goods shifting from truck to rail. Some of this latter portion may be onions shipped long distances, some may be onions shipped by truck to the ColdConnect facility in Wallula (WA), and then shipped by rail to points east. These shipments travel east through Nyssa (OR). These locations are shown in Figure 37 below.

Figure 37. Driving Distance to Nearest Equivalent Facility in Wallula, WA



Source: ECONorthwest

In order to generate conservative estimates of benefits, this section assumes that the entire volume of "new" onion shipments is shifted from Wallula. Thus, private transportation cost savings are equal to the one-way truck shipping cost to Wallula. Assuming that these trucking services can be procured from the long-distance trucking market, per-mile costs from the USDA's Agricultural Refrigerated Truck Quarterly are used to approximate these cost savings.

There are potential rail cost savings in based on the marginal per-mile cost from Wallula to Nyssa. However, rail service is a function of the relative demand and scarcity for rail cars and trackage. Limited resources are likely to be allocated to the most relatively profitable use. The supply of rail services is relatively fixed in the short term and price inelastic, thus it is reasonable to expect rail transit charges from Nyssa to be roughly equivalent to other nearby facilities, in additional to facility access fees. Thus, rail charges are excluded from the estimate of private transportation cost savings. The resulting calculation is as follows:

Potential value of private transportation cost savings:

Private Transportation Cost Savings = (Cost to ship to Wallula by refrigerated truck) * (Distance) * (Truck-equivalent loads)

Private Transportation Cost Savings = ($2.07 per mile44) * (210 miles) * (4,214 truck- equivalent loads)

Private Transportation Cost Savings = $1,831,000 per year

When evaluated over a twenty-year timeframe—from 2020 to 2040—at a 3 percent and 7 percent discount rate, these savings amount to between $18,129,000 and $26,448,000. These transportation cost savings are likely to be captured in the private market by either growers, shippers, the facility operator, or Union Pacific.

Public Benefits

This section calculates the monetary value of the public benefits derived from the TVRC, particularly by shifting the transportation of commodities from Oregon highways to rail. Public benefits accrue when goods that are non-rival and non-excludable are improved. Although the values can often be inferred from private market transactions, public goods are not regularly bought and sold. This analysis draws information from published economic literature and relevant federal guidance to calculate a range of benefits accruing to Oregon residents from the construction of the TVRC.

The existing baseline scenario used to inform this analysis involves either refrigerated or dry- van eighteen-wheeler trucks carrying full loads of agricultural products apiece departing from Ontario, OR and driving to Wallula, WA to deliver them to an existing distribution site, which then transports these loads across the United States to various cities on the east coast via rail. Although the full suite of public benefits is broad, this analysis only focuses on the benefits from loaded trucks from highways inside the State of Oregon. As described earlier, the TVRC is expected to remove approximately 1.6 million CWT from Oregon highways per year. This is the estimate of new shipments detailed in Section 5.6 on page 43, and amounts to approximately 4,214 trucks.

Shifting loads from truck to rail provides efficiencies that generate private cost benefits, as well as benefits that accrue to the public, including reduced pollution, congestion, highway wear and tear, and fewer accidents. The following subsections discuss in detail the benefits of removing loaded eighteen-wheeler trucks from urban interstates in eastern Oregon, primarily in Malheur, Baker, Union, and Umatilla Counties. They are as follows:

- Improved Highway Safety
- Air Pollution and Greenhouse Gas Reduction
- Reduced Highway Maintenance Costs

Framework

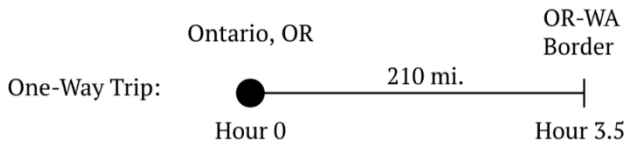
As in the calculation of private benefits above, public benefits are estimated for a conceptual framework that reduces the shipment of commodities from Ontario, Oregon to Wallula, Washington by truck, and then back by rail. Figure 38 depicts the conceptual basis for estimating benefits for removing trucks from highways in the State of Oregon. Since the marginal effect of many of the public benefits varies across time and distance, it also details the distance traveled on I-84, Highway 207, and U.S. Route 730 and the relative driving hour for when drivers cross the Oregon-Washington border into Washington. While this conceptual example does not precisely mirror the full set of transportation actions being made, it is roughly representative and serves as a basis for estimating the scale of public benefits.

In the analysis to follow, it is important to note the calculations monetizing these public benefits rely heavily on assumptions. These calculations do not account for the universe of specific trade-offs when trucks are removed from Oregon interstates. For example, when calculating the benefit of reduced congestion, the potential scenario of private passenger vehicles or light trucks replacing the space created on highways as a result of the eighteen wheelers removed is not considered. Additionally, assumptions are made on the given weight for each eighteen- wheeler, a specific driving route, and an amount of time taken to drive this route. Any deviation from these assumptions will result in public benefits being reduced (e.g., private passenger vehicles replacing eighteen wheelers, trucks taking a longer driving route, trucks being only partially loaded) or increased (e.g., highway congestion worsens). For this reason, all values are produced as a range and are intended to demonstrate the potential scale of public benefits.

Driving Distance Assumptions

The distance from Ontario to the Oregon-Washington border is approximately 3 hours and 25 minutes, or about 210 miles (Figure 38).47 Drivers spend about 3.5 hours of their driving route on Oregon interstates. For simplicity, it is assumed that truck drivers occupy Oregon interstates for their full first, second, and third hours of driving. Their fourth hour, while partial, is also in Oregon.

Figure 38. Truck Travel Route from Ontario, OR to Oregon- Washington Border South of Wallula, WA, by Driving Hour



Source: ECONorthwest.

Truck Weight Assumptions

Two assumptions are made regarding the weight of eighteen wheelers. These will be restated when employed in calculations to follow.

- The typical weight of a Class 8 truck tractor is approximately 17,000 pounds or 8.5 tons.
- A standard 53-foot refrigerated van—the cargo unit attached to the back of the truck tractor—has an approximate tare weight (empty) of 15,500 pounds (7.75 tons) and can hold up to a maximum of 45,000 pounds.50

Combining the weight of the truck tractor with an empty 53-foot refrigerated van, the approximate typical tare weight of an eighteen-wheeler is about 16.25 tons. It is important to note, however, that this tonnage can vary widely based on the type of truck tractor and the trailer attached to it. When each refrigerated truck is loaded with 21.25 tons of onions, the truck weighs about 37.5 tons.

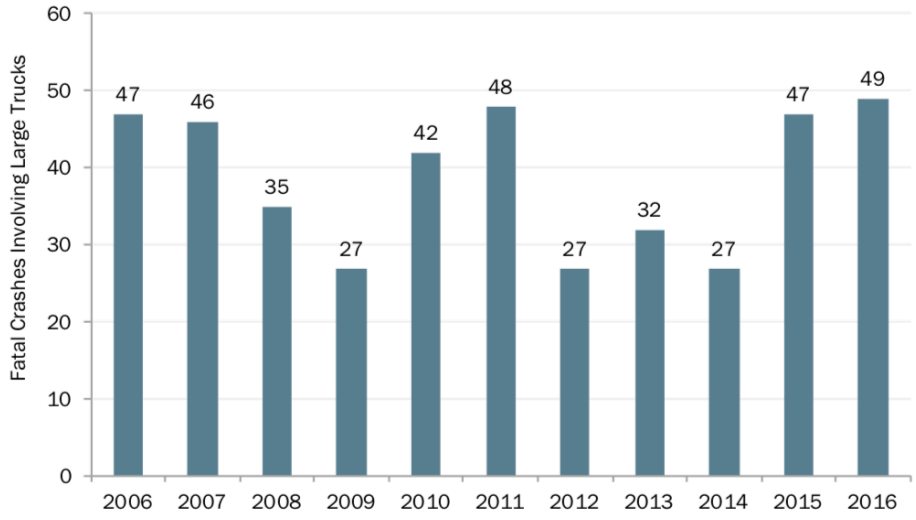
Marginal Costs

Marginal costs are essential for understanding travel impacts as they illustrate the incremental cost per extra mile driven on interstates. These costs, though not regularly considered by road users, are imposed on drivers (travel time, costs of vehicle operation), public agencies (road maintenance), and they externally affect other highway users by congestion and, more broadly, communities by pollution. It should be noted that while these marginal costs illuminate the incremental cost per mile, their value will vary based on time of day. For example, the marginal cost of congestion during peak travel periods through Portland will be higher than during non- peak travel periods.

Highway Safety

Large trucks have been involved in fatal crashes on Oregon roadways. To contextualize the number of fatal crashes and fatalities involving large trucks on Oregon roadways, Figure 39 and Figure 40 provide trend analyses of these statistics over the last eleven years, respectively.51 It is important to note not all of these fatal crashes and fatalities necessarily occurred on interstate freeways; more generally, these statistics describe the number of fatal truck crashes on public roadways. Over the 2006 to 2016 timeframe in Oregon, the largest number of fatal crashes occurred in 2016 at 49. Averaging the eleven years of data, about 43 fatal truck crashes occurred per year.

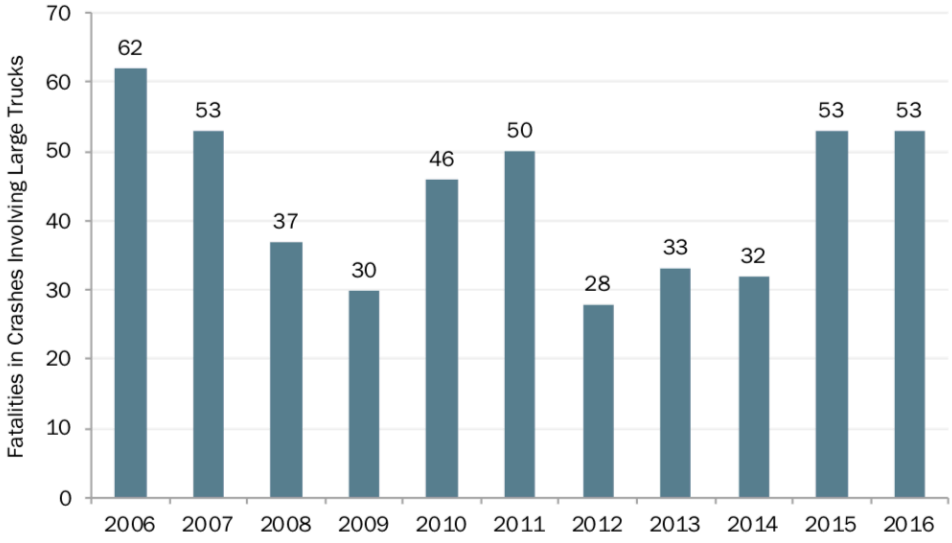
Figure 39. Fatal Crashes Involving Large Trucks, 2006-2016



Source: U.S. Department of Transportation, Large Truck and Bus Crash Facts 2016.

The number of fatalities from crashes involving large trucks has fluctuated over the last eleven years. During the 2006 to 2016 timeframe, the largest number of fatalities occurred in 2006 at 62. Over these eleven years, the lowest number of fatalities was 28 in 2012. In 2015 and 2016, however, the number of fatalities rose to 53 in each year. On average, 39 fatalities from crashes involving large trucks occurred each year in Oregon over the past eleven years.

Figure 40. Fatalities in Crashes Involving Large Trucks, 2006-2016



Source: U.S. Department of Transportation, Large Truck and Bus Crash Facts 2016.

There are additional estimates of the rate of large truck at-fault crashes reported by the Oregon Department of Transportation. From 2013 through 2017, there was an average of 0.43 large truck crashes involving a fatality, injury, or disabling damage per million vehicle miles traveled. Additionally, there were 1.32 deaths per 100 million vehicle miles traveled on Oregon roads in 2016.

To approximate the monetary value of increased highway safety via the removal of trucks from Oregon interstates, two ranges of estimates are generated. One range uses the Value of a Statistical Life (VSL) to approximate the monetary value of fatalities prevented. The other range is based more broadly on accidents, specifically how removing trucks from highways decreases this negative externality experienced by other users of interstates.

First, the range for potential fatalities prevented as a result of removing trucks from Oregon interstates is calculated. The U.S. Department of Transportation (U.S. DOT) reported a VSL of $9.6 million for 2016 in their revised VSL Guidance memorandum. Using the Consumer Price Index published by the Bureau of Labor Statistics, the 2016 VSL value is adjusted to 2018 dollars.54 This inflation adjustment raises the VSL to $9.91 million.

Potential value of fatalities prevented, U.S. DOT VSL:
Potential value of fatalities prevented = (U.S. DOT VSL) * (Fatality rate, per mile) * (Trucks trips removed from interstates per year) * (Miles per truck trip)

Potential value of fatalities prevented = ($9.91 mill.) * (1.32 / 100 mill) * (4,214 trucks) * (210 miles)

Potential value of fatalities prevented = $116,000 per year

A particularly dangerous stretch of roadway on I-84 in Oregon is Deadman's Pass. This corridor is about ten miles in length and lies about 9 miles east of the city of Pendleton, Oregon. Depending on direction of travel, traversal of Deadman's Pass is perilous insofar that elevation climb is steep over a short distance and the roadway has a handful of hairpin turns. When trucks drive in the east-west direction, toward Pendleton from the Idaho border, the downgrade is treacherous.

Vehicle crash data from the Oregon Department of Transportation's Crash Data System allows quantification number of truck crashes on this stretch of I-84 which approximately begins/ends with mileposts 217 and 227, depending on direction of travel (driving east-west, this would be from milepost 227 to 217; in the west-east direction, it would be milepost 217 to 227). The total number of highway crashes occurring in Umatilla County, the number of those crashes that were truck crashes, and number of truck crashes that occurred just along the Deadman's Pass corridor, from milepost 217 to 227 are identified in Figure 41 below.

Figure 41. Umatilla County Highway Crashes, Truck Crashes, and Truck Crashes on Deadman's Pass, 2012-2016

Year	Umatilla County State Highway Total Crashes	Umatilla County State Highway Truck Crashes	Truck Crashes between Mileposts 217 and 227 (Deadman's Pass)
2012	607	95	26
2013	570	85	11
2014	693	138	45
2015	601	85	7
2016	677	87	15
Total, 2012-2016	3,148	490	104
Avg. Annual, 2012-2016	630	98	21

Source: Oregon Department of Transportation, Crash Data System, 2012-2016.

On average, over 2012 to 2016, there were 630 crashes on Umatilla County interstates. Over this same period, there were approximately 98 truck crashes on average. These truck crashes accounted for about 16 percent of all vehicle-related accidents reported by the Oregon Department of Transportation in Umatilla County. On the approximate ten-

mile stretch comprising Deadman's Pass, on average, 21 truck crashes occurred annually over 2012 to 2016. This means about 21 percent of truck crashes occurring on Umatilla County interstates took place on Deadman's Pass. Although the facility is expected to reduce the number of trucks travelling on this stretch of highway, it is not possible to draw a direct relationship between that volume and the number of accidents expected. The monetary value related to truck removal from Deadman's Pass is not calculated, however, given the overall reduction of trucks from I-84 in this analysis, it is possible fewer accidents may take place on this stretch of roadway.

Aside from reducing fatalities on roadways, there are additional benefits from the reduction in general accidents. In a technical report from Blanco, *et al.* (2011), they estimate the rate of Safety Critical Events (SCE) as a function of driving hour.55 An SCE is any crash, near-crash, crash- relevant conflict, or unintentional lane deviation. These rates help us estimate the potential number of accidents that could occur from eighteen-wheelers while they drive through Oregon. Using Blanco, *et al.*'s estimates provided in Figure 42, the average rate of SCE across driving hours 1, 2, 3, and 4 is 0.135.

Figure 42. Rate of SCE Occurrence by Driving Hour

Driving Hour	SCEs Per Driving Hour	Total Opportunities Per Driving Hour	Rate of SCE Occurrence
1	218	1,864.60	0.117
2	230	1,826.97	0.126
3	235	1,786.90	0.132
4	285	1,715.56	0.166
5	263	1,612.94	0.163
6	265	1,477.66	0.179
7	248	1,261.41	0.197
8	154	1,021.06	0.151
9	125	808.78	0.155
10	98	553.16	0.177
11	76	321.48	0.236

Source: Blanco, et al. (2011). Table 11, page 29.

It is expected that there will be a reduction in approximately 1,991 safety SCEs per year (0.135 SCE rate * 4,214 trucks * 3.5 hours driving per truck) from removing trucks from the roads.

While there is no explicit monetary estimate for a reduction in SCEs, a range of values of general accidents prevented by removing trucks from Oregon interstates is available from evaluations of several federal highway regulations. According to the EPA's final rulemaking regarding greenhouse gas emissions standards and fuel efficiency standards for heavy-duty trucks, the marginal cost per freeway mile driven of an accident range from a low estimate of $0.01 to a high of $0.08. The 'Middle' estimate, or $0.03, is used to approximate the value of accidents avoided.

Figure 43. Cost of Highway Externalities for Combination Tractors per Mile, in 2018 dollars

Highway Impact	High	Middle	Low
Noise	$0.06	$0.02	$0.01
Accidents	$0.08	$0.03	$0.01
Congestion	$0.37	$0.13	$0.03
Combined	$0.51	$0.18	$0.05

Source: U.S. EPA. Final Rulemaking to Establish Greenhouse Gas Emissions Standards and Fuel Efficiency Standards for Medium- and Heavy-Duty Engines and Vehicles, Regulatory Impact Analysis. Table 9-10: Low-Mid-High Cost Estimates.

For comparison, Figure 44 details the marginal cost of each urban interstate mile driven for various externalities by truck weight per the Federal Highway Administration's (FHWA) 1997 Addendum to their Highway Cost Allocation Study. A number of the externalities listed in this table will be referenced in later sections and employed in other calculations. These values, originally reported in 2000 dollars, have been adjusted to 2018 dollars using the CPI. Given the focus on eighteen wheelers, the pertinent estimate for marginal crash costs from Figure 44 is '80 kip 5-axle Comb.' as this is the closest truck weight to the refrigerated trucks in consideration. The marginal crash value for this vehicle class is $0.017, or approximately 2 cents, per interstate mile driven.

Figure 44. Marginal Cost of Incremental Highway Mile Driven, by Vehicle Class on Urban Interstates, in Cents per Mile, 2018 dollars

Vehicle Class on Urban Interstate	Pavement	Congestion	Crash	Air Pollution	Noise	Total
40 kip 4-axle S.U. Truck	$0.045	$0.352	$0.012	$0.065	$0.022	$0.496
60 kip 4-axle S.U. Truck	$0.261	$0.470	$0.012	$0.065	$0.024	$0.832
60 kip 5-axle Comb.	$0.151	$0.265	$0.017	$0.065	$0.040	$0.537
80 kip 5-axle Comb.	$0.589	$0.289	$0.017	$0.065	$0.044	$1.002

Source: U.S. Department of Transportation, Federal Highway Administration. Addendum to the 1997 Federal Highway Cost Allocation Study, Final Report

Potential value of highway accidents avoided, EPA accident value:
Value of accidents avoided = (EPA's marginal cost of crash) *(Truck miles driven) * (Number of trucks removed from interstates per year)

Value of accidents avoided = ($0.03) * (210 miles) * (4,214 trucks per year) Value of accidents avoided = $27,000 per year

Potential value of highway accidents avoided, FHWA accident value:
Value of accidents avoided = (FHWA's marginal cost of crash) * (Truck miles driven) * (Number of trucks removed from interstates per year)

Value of accidents avoided = ($0.017) * (210 miles) * (4,214 trucks per year) Value of accidents avoided = $15,000 per year

Greenhouse Gas Reduction and Air Pollution
Shifting transported commodities from trucks to rail reduces greenhouse gases (GHGs) and air pollution. The primary reason for this is that rail can transport cargo further per ton-mile of fuel consumed. According to the EPA, "the most important greenhouse gases directly emitted by humans include carbon dioxide (CO2), methane (CH4), nitrous oxide (N2O), and several other fluorine-containing halogenated substances."57 In their 2018 Inventory of U.S. Greenhouse Gas Emissions and Sinks, the EPA reports approximately 2.2 percent of the U.S.'s GHG emissions (CO2, CH4, N2O, HFCs, Other Emissions from Electric Power) in 2016 came from rail transportation. Medium- and heavy-duty trucks contributed to 22.9 percent of the total GHG emissions (CO2, CH4, N2O, HFCs) in 2016. Other gases accounted for in this section include indirect greenhouse gases, which do not necessarily contribute to the global warming effect, but they indirectly impact the Earth's atmosphere "by influencing the formation and destruction of tropospheric and stratospheric ozone ...."58 Among these are carbon monoxide (CO), nitrogen oxides (NOx), volatile organic compounds (VOCs), sulfur dioxide (SO2), and others. Particulate matter (PM2.5), ammonia (NH3), nitrogen oxides, sulfur dioxide, and VOCs are gasses that affect human health and air quality.59 The human health component is monetized later in this section as it relates to the reduction of these harmful gasses from fewer trucks.

The Texas Transportation Institute (TTI) estimated railroads moved approximately one ton of cargo 478 miles per gallon of fuel in 2009. In comparison, trucks moved one ton of freight 150 miles per gallon.60 Thus, railroad

transportation is more fuel efficient for moving cargo relative to trucks, and as a result of consuming less fuel, railroad transportation produces fewer GHGs.

The TTI report estimates railroads produce one ton of GHG per 47,308 ton-miles while trucks produce one ton of GHG per 5,802 ton-miles.61 Below is the calculation for the quantity of GHG emitted by a single truck driving on Oregon interstates.

From Ontario to Oregon-Washington Border:
Travels 210 miles at 37.5 tons (full load) = (210 miles) * (37.5 tons) = 7,875 ton-miles

Thus, one truck travels 7,875 ton-miles and produces 1.35 tons of GHG (7,875 divided by 5,820).
One way to estimate the impacts of taking trucks off the road in favor of rail is calculating the reduction of carbon dioxide (CO2) emissions by using the social cost of carbon (SCC). Figure 45 shows the social costs of CO2 per metric ton across various discount rates published by the EPA.

Figure 45. Social Cost of Carbon per Metric Ton, 2012–2050, 2018 dollars

Year	5% Avg. Discount	3% Avg. Discount	2.5% Avg. Discount	3%, 95th Percentile
2012	$6.10	$26.64	$43.36	$81.04
2015	$6.85	$28.40	$45.72	$85.53
2020	$8.10	$31.31	$49.66	$96.09
2025	$9.86	$35.16	$54.63	$107.58
2030	$11.61	$38.99	$59.59	$119.07
2035	$13.37	$42.84	$64.56	$130.56
2040	$15.12	$46.68	$69.54	$142.05
2045	$16.90	$50.07	$73.47	$152.11
2050	$18.69	$53.46	$77.40	$162.18

Source: U.S. EPA. Final Rulemaking to Establish Greenhouse Gas Emissions Standards and Fuel Efficiency Standards for Medium- and Heavy-Duty Engines and Vehicles, Regulatory Impact Analysis.

Using the 2020 SCC value across various discount rates from Figure 45, a range of values is generated for carbon removed from the atmosphere as a result of taking 4,214 eighteen wheelers off the road each year.

Social cost of carbon, 5 percent discount rate:
SCC at 5 percent discount = (2020 value at 5 percent) * (Tons of GHG produced by one truck) * (Trucks removed from interstates/year)
SCC at 5 percent discount = ($8.10) * (1.35 tons of GHG per truck) * (4,214 trucks/year) SCC at 5 percent discount = $46,000/year

Social cost of carbon, 3 percent discount rate:
SCC at 3 percent discount = ($31.31) * (1.35 tons of GHG/truck) * (4,214 trucks/year)
SCC at 3 percent discount = $178,000/year

Social cost of carbon, 2.5 percent discount rate:
SCC at 2.5 percent discount = ($49.66) * (1.35 tons of GHG/truck) * (4,214 trucks/year) SCC at 2.5 percent discount = $283,000/year

In addition to computing the social cost of carbon, the human health impacts of air pollution are also estimated. These impacts manifest themselves through respiratory complications, premature mortality, cardiovascular illnesses, and other afflictions. Delucchi, *et al.* (2010) estimated an air pollution health cost value of 1.55 cents per ton-mile (in 2006 dollars) for heavy-duty diesel vehicles using the Co-Benefits Risk Assessment Screening Model (COBRA).

COBRA is a screening and mapping tool developed by the EPA that estimates "the economic value of the health benefits associated with clean energy policies and programs to compare against program costs."64 It estimates emissions of particulate matter, sulfur dioxide, nitrogen oxides, ammonia, and volatile organic compounds. As a result, this estimate calculated by Delucchi, *et al.* (2010) does not overlap with the public benefits accrual associated with carbon reduction. The cost estimate is adjusted to 2018 dollars using the C.P.I., resulting in a health cost of approximately 1.91 cents per ton-mile, or $0.019. Furthermore, our operating scenario involves offsetting trucks travelling from the Treasure Valley to Wallula, Washington by truck, after which product is loaded on trains travelling east, back through Nyssa, Oregon. The human health cost associated with moving a truck-equivalent load one mile by rail is $0.0043. These two air pollution effects are additive and are calculated below.

Human health benefit of reducing air pollution, heavy-duty diesel vehicle portion:
Value of air pollution reduced = (Delucchi, *et al.*'s value of air pollution) * (Ton-miles driven per truck) * (Trucks removed from interstates per year)
Value of air pollution reduced = ($0.019) * (7,875 ton-miles) * (4,214 trucks per year) Value of air pollution reduced = $631,000

Human health benefit of reducing air pollution, rail portion:
Value of air pollution reduced = ($0.0043) * (7,875 ton-miles) * (4,214 trucks per year)
Value of air pollution reduced = $143,000

The sum of the two values calculated above is $774,000. In other words, removing 4,214 trucks per year from Oregon interstates would yield an approximate human health benefit of $774,000 assuming no private passenger vehicles replace the space created by the absent trucks.

The FHWA similarly reports air pollution marginal costs per driving mile of $0.065 in Figure 44, though this value is more general, and it does not directly evaluate the impact on human health. It estimates the difference in air pollution concentrations between highway traffic and no highway traffic. The calculation below can be interpreted as a lower bound estimate of the public benefit of air pollution reduction as its value hinges on cents per mile and not cents per ton-mile as Delucchi, *et al.*'s does.

Benefit of reducing air pollution, FHWA air pollution estimate:
Value of air pollution reduced = (FHWA's marginal cost of air pollution) * (Truck miles driven) * (Trucks removed from interstates/year)

Value of air pollution reduced = ($0.065) * (210 miles) * (4,214 trucks/year)

Value of air pollution reduced = $58,000

Reduction Highway Maintenance Costs
Freight rail advocates argue that increased rail freight movement significantly reduces highways infrastructure maintenance and expansion costs.65 Trucks are substantially heavier than private passenger vehicles. A GAO report states, "Although a five-axle tractor-trailer loaded to the current 80,000-pound Federal weight limit weighs about the same as 20 automobiles, the impact of the tractor-trailer is dramatically higher ... a tractor-trailer has the same impact on an interstate highway as at least 9,600 automobiles... ."66 The eighteen wheelers driving on Oregon interstates do not reach the maximum federal weight limit, although on their return trip they come close (37.5 tons). Again referencing Figure 44, the '80 kip 5-axle comb' is used to derive an estimate for the roadway maintenance eighteen wheelers impose on Oregon interstates.

Marginal cost of highway road maintenance:

Value of highway maintenance = (Marginal cost of highway road maintenance, 80 kip 5- axle combination truck) * (Truck miles driven) * (Trucks removed from interstates/year)

Value of highway maintenance = ($0.589) * (210 miles) * (4,214 trucks/year)

Value of highway maintenance = $521,000/year

The annual highway road maintenance benefit of removing 4,214 eighteen wheelers from interstates will approximately equal $521,000. States and the Federal Government regularly conduct Highway Cost Allocation Studies to evaluate highway-related costs attributable to different vehicle classes and determine whether fees paid by different vehicles (e.g. through tolls, transit charges, or gasoline taxes) cover their highway cost responsibility.67 A fully efficient fee structure where trucks are paying weight-mile fees, motor fuel excise taxes, and registration fees that properly account for their impact on the highway network would result in no external public costs. In order to accommodate the full range of potentially fee efficiency, the value above is used only in the "high" estimate, while a value of zero is used in the "low" estimate.

Summary of Public Benefits

Diverting transported commodities from trucks to rail would help relieve a handful of public costs exerted on the environment, human health, highway maintenance, and congestion. The largest benefits manifest through congestion reduction, lower levels of particulate matter emission and thus a benefit on human health, and a reduction in highway road wear and tear. Figure 46 summarizes the low and high estimates calculated for each public benefit category in order of appearance in this public benefits section.

Figure 46. Potential Annual Benefits, in 2018 dollars

Category of Public Benefit	Low Estimate	High Estimate
Potential value of fatalities prevented	$116,000	$116,000
Potential value of highway accidents avoided	$15,000	$27,000
Social Cost of Carbon	$46,000	$283,000
Human Health	$774,000	$774,000
Air Pollution Reduction	$58,000	$58,000
Reduced Highway Road Maintenance	$0	$521,000
Total	$1,009,000	$1,779,000

Source: ECONorthwest

Figure 47 projects and sums the public benefits in Figure 46 over a twenty-year timeframe— from 2020 to 2040—at a 3 percent and 7 percent discount rate. This analysis timeframe and the chosen discount rates are consistent with federal guidance for preparing economic analyses. The potential present value of public benefits over the next twenty years for the 'Low Estimate' ranges between $9,990,000 (7 percent discount) and $14,574,000 (3 percent discount). The 'High Estimate' is estimated between $17,614,000 and $25,696,000.

Figure 47. Potential Present Value Benefits over 2020 to 2040, in 2018 dollars

Discount Rate	Low Estimate	High Estimate
3 percent	$14,574,000	$25,696,000
7 percent	$9,990,000	$17,614,000

Source: ECONorthwest

[Insert Tab 6: Facility Engineering Analysis]

6. Facility Engineering and Capital Cost Estimates

Overview

The TVRC Zone D property underwent considerable due diligence analysis and preliminary engineering work to help ensure the site is feasible for the intended use. The due diligence analysis included the following items:

- Phase I Environmental Site Assessment (ESA)
- Wetland Delineation
- Geotechnical Evaluation
- Topographic Design Survey and Monument Recovery Survey
- Cultural Resources Evaluation

The preliminary engineering expanded on the "conceptual engineering" site layout and concepts (approximately a 30 percent design engineering effort). The preliminary engineering efforts resulted in verification of the proposed site layout, anticipated needs to serve the site, the locations of all proposed facilities and utilities, as well as continued refinement of preliminary project cost estimates. A summary of the due diligence and preliminary engineering efforts is outlined hereafter.

Site Due Diligence Analysis

Phase I ESA

A Phase I ESA was completed by AP for the Zone D property in accordance with the provisions of American Society for Testing and Materials (ASTM) Standard Practice E 1527-13 for Phase I ESAs. AP performed a site visit, interviews, and review of environmental data and historical resources. Within the scope of the investigation, one recognized environmental condition (REC) was identified, which was the release of approximately 1,800 gallons of a petroleum product on an adjacent parcel. One business environmental risk (BER) was identified, which was the presence of small chemical containers in select areas across the Subject Property and the associated current and historic use of agricultural chemicals across the Subject Property. Pesticides used in accordance with labeling instructions are generally not considered a release of a hazardous substance and would be identified as a non-scope consideration under the Phase I standard. No historical recognized environmental conditions, controlled recognized environmental conditions, or *de minimis* risks were identified.

It is AP's opinion that there is a risk of unknown potential contamination at the site due to the occurrence of a large petroleum spill approximately 450 feet away from the Subject Property (REC) and the use of agricultural products throughout the site (BER). The potential presence of contaminants could be confirmed through Phase II ESA, soil, and/or groundwater testing; however, it is unlikely that residual chemicals from agricultural products would exceed industrial use standards, thereby requiring cleanup. Additionally, because the REC did not originate on the Subject Property, it is unlikely that MCDC would be liable for this condition if it was found to be present on the Subject Property.

The REC is also located north of the northern limit of the Zone D property. If this REC were to have affected the Zone D property, it would likely only affect groundwater, and only in the northeast corner of the Zone D property. Thus, the two concerns outlined in the Phase I ESA are not believed to be significant and do not hinder continued acquisition and development of the Zone D property for the proposed reload facility.

A copy of the Phase I ESA for the Zone D property is included in the Appendix.

Wetland Delineation

A wetland evaluation and delineation were completed by AP for the Zone D property by a biologist certified to delineate wetlands in the state of Oregon. This wetland delineation effort also included other properties in the project area, specifically Zones A, B, and C, which are just south of the Zone D property. However, the summary outlined hereafter only includes the results for the Zone D property.

Based on the results of site investigations conducted on June 19 through 22, 2018, AP confirmed the presence of four wetland areas totaling approximately 23.00 acres within the Zone D property. These results are based on the presence of the three required indicators for wetlands as described in the 1987 USACE *Wetlands Delineation Manual* and the *Regional Supplement to the Corps of Engineers Wetlands Delineation Manual: Arid West Region (Version 2.0).*

The wetlands may be considered Waters of the State/U.S., and any fill or removal activities could require permits from the USACE and/or the Oregon Department of State Lands (DSL).

The wetland delineation was conducted in accordance with the routine methodology provided in the 1987 USACE *Wetlands Delineation Manual* and the *Regional Supplement to the Corps of Engineers Wetlands Delineation Manual: Arid West Region (Version 2.0).*

The Wetland Delineation Report has been submitted to the DSL for review and approval. The DSL will review and comment on the Report in accordance with Oregon Administrative Rules 141-090-0005 through 141-090-0055.

The proposed development of the site will impact some of the wetlands delineated on the Zone D property. Typically, wetland impacts are allowed as long as wetland mitigation occurs at a ratio of 1.5 acres mitigated to 1.0 acres disturbed. It is currently estimated that approximately 7 acres of wetlands will be impacted, so the proposed reload project will include mitigation (creation) of at least 10.5 acres of wetlands. The wetlands may be created within the immediate vicinity of the existing wetland on the Zone D property or adjacent to other wetlands delineated on the Zones A, B, and C properties.

The wetlands present on the site will not hinder the proposed development of the reload facility on the Zone D property. Wetland mitigation will be required as part of the proposed improvements.

A copy of the Wetland Delineation Report is included in the Appendix.

Geotechnical Report

A geotechnical evaluation of the Zone D property was completed by AP. Field explorations for the geotechnical evaluation were completed on September 6, 2018, and consisted of excavating 12 test pits on the site. The materials in each test pit were visually classified, and soil samples were obtained during the exploration and retained for future laboratory testing. The soils were classified according to ASTM International D2488 classification of soils for engineering purposes.

The soil profile at the Zone D site varies slightly across the site. In general, alluvial silt was encountered during the subsurface explorations from the ground surface to a depth ranging from approximately 2.0 to 11.0 feet. In a few locations, fill was encountered overlying the alluvial silt formation. The fill ranged from approximately 1.0 to 5.0 feet thick. The alluvial silt is generally underlain by alluvial sand. The thickness of the sand ranges from approximately 0.5 to 5.0 feet. A layer of clay was observed beneath the sand in one of the test pit explorations. In general, the alluvial sand is underlain by gravel alluvium. Sand and gravel alluvium were encountered to a depth of approximately 12.0 feet, which was the extent of the subsurface explorations. Groundwater was encountered at depths ranging from 3.5 to 7.5 feet below ground surface.

In general, areas for development of the TVRC project will need to be stripped and grubbed (the upper 6 inches of material). This topsoil can be reused on the site, but not as a structural fill. Any fill observed during explorations should be removed beneath structures and foundations. The sub grade within the proposed improvements areas should be compacted to a minimum of 95 percent of the maximum density as determined by ASTM D698. Areas prepared for development of structures and other site facilities should be proof-rolled with a loaded dump truck to reveal any soft, unsuitable areas existing in the subgrade. These areas should be over-excavated and backfilled with structural fill.

The final Geotechnical Report contains more specific recommendations for proposed site improvement activities. Specific recommendations are provided for site preparation, construction within or near the wetlands, foundation considerations, floor slab base recommendations, structural fill recommendations, embankment construction, slope considerations, site drainage, footing drains, utility trenches, lateral load considerations, pavement design considerations, and inclement weather construction, as well as seismic considerations, including liquefaction.

The Geotechnical Report provides adequate information for the design team to properly size footings for the proposed new structures and to design railroad embankments, infrastructure facilities, parking and roadway facilities, and the stormwater system improvements for the proposed TVRC.

A copy of the Geotechnical Report is included in the Appendix.

Topographic Survey and Monument Recovery

AP completed a topographic design survey as well as monument recovery efforts for the Zone D property. Survey efforts also included the UPRR main line right-of-way (ROW) and main line trackage in the areas needed for RailPros to complete preliminary rail layouts. AP also completed surveying in the ROW for Arcadia Boulevard from the Zone D site to the City of Nyssa's existing water and sewer systems to provide the needed base map for the preliminary design of water and sewer extensions to the site from the City of Nyssa.

This survey effort was completed by multiple survey crews of AP in July and August 2018. Base maps of the surveyed areas were prepared and submitted to RailPros and the City of Nyssa for their use to support their preliminary engineering efforts for the TVRC project. AP also utilized the base maps for due diligence efforts as well as preliminary engineering efforts. Area monumentation information and field evidence of monumentation were also secured in preparation of anticipated partitioning and/or easement description preparation for interior partitioning or easement parcels for the Zone D property. This effort was also completed to verify the width of the Arcadia Boulevard ROW for utility purposes.

Cultural Resources Inventory

A Cultural Resources Inventory (CRI) of the Zone D property was completed from May 29 to June 1, 2018, by AP for construction of the proposed TVRC. The project area includes 440 acres; however, only 380 acres (86.4 percent) were surveyed. The remaining 60 acres (13.6 percent) were flooded. The CRI was implemented in compliance with Oregon Revised Statute 358.653, which obligates all political entities of the State, including counties, to consult with the Oregon State Historic Preservation Office to avoid impacts to historic properties. The CRI effort also included other properties in the project area, specifically Zones A, B, and C, which are just south of the Zone D property. However, the summary outlined hereafter only includes the results for the Zone D property.

A qualified professional archaeologist meeting the Secretary of the Interior's Standards for Archaeology (36 Code of Federal Regulations, Part 61, Appendix A) conducted a pedestrian survey within the proposed project area and completed a detailed inventory. The archaeologist identified one historic ditch (Wilson Ditch), and one archaeological site (MES-1), a historic refuse dump within the City of Nyssa's former landfill. The Wilson Ditch was abandoned before completion and does not connect to locally significant irrigation systems, such as the Owyhee Ditch. The Wilson Ditch does not represent a unique style of construction. Therefore, the historic ditch is recommended *not*

eligible to be nominated for the National Register of Historic Places (NRHP). The historic refuse dump (MES-1) is located in mixed contexts within the 20-acre modern City of Nyssa landfill. Date estimates for identifiable artifacts place this 1-1/2-acre sub-locality within the modern landfill between the 1920s and 1960s. However, only five artifacts or fragments (shards) were identified that pre-date 1950. The historic refuse dump (MES-1) is recommended *not eligible* to be nominated for the NRHP.

Based on these findings, it is recommended that construction of the TVRC will have *no adverse effect* to eligible or significant cultural resources.

The CRI report contains sensitive information concerning area archaeology sites; therefore, it cannot be included in the appendices. However, the cover, title page, table of contents, and executive summary of the report are included in the Appendix for reference.

Site Design Criteria

For the Zone D property to be utilized for the proposed reload facility, several criteria need to be met. As summarized in an earlier section of this proposal, a comparison of several area sites in the Ontario and Nyssa area was completed, and the Zone D property was selected for the proposed TVRC. The reasons this site was selected are also the design criteria for the site, and include the following:

- A minimum of 100 acres
- Sufficient acres for rail spurs
- Sufficient surrounding developable area for ancillary businesses and related facilities to utilize the reload center
- Industrial zoned or can be reasonably rezoned to industrial
- Adjacent to the UPRR main line
- Minimum clear length of 7,000 feet for a siding track to clear the main line
- Able to be reasonably served by area utilities (water, sewer, gas, power, etc.)
- Readily accessible by area surface transportation system

As summarized in the Site Selection section (section 4), the proposed Zone D property north of the City of Nyssa, Oregon, was selected for the proposed TVRC. The site layout analysis section summarized hereafter was prepared to best utilize the site to meet these design criteria.

Site Layout Analysis

The site layout analysis described hereafter includes data for several site features. These features include:

- Rail requirements
- Building size and location
- Truck scale facility
- Truck traffic flow considerations
- General site utilities
- Site access options
- Future expansion of reload facility
- Future expansion of the Zone D property

A site plan of the current proposed facility is shown on Figure 6-1 at the end of this section. This site plan also shows the area north of the proposed reload center where future buildings can be located along the same rail spur. This future reload facility area allows for considerable expansion of the proposed reload center, up to 6 to 7 times the building area and loading dock frontage. This future reload area can utilize the same rail infrastructure initially constructed for the facility with minimal extension of siding spurs, maximizing the future potential and use of the

initial rail investment for the facility. Furthermore, the site plan shows potential lot layouts for the remainder of the site. This layout shows several potential site parcels ranging in size from 7 to 16 acres. These sites can be parceled out at whatever size is needed for businesses looking to locate in the vicinity of and adjacent to the reload facility.

Rail Requirements

The analysis for the rail needs of the Zone D property and, more specifically, the UPRR rail needs to accommodate a unit train at the proposed TVRC, was completed by RailPros. RailPros provided the following summary of rail requirements and the operating plan for the Zone D property.

The UPRR Huntington Subdivision is a controlled corridor. The UPRR Industry Guidelines for this subdivision are as follows:

- Separate drop and pull tracks
- The industry is to be served clear of the main line. This requires a 7,000 feet minimum clear length on a siding track
- Power switches & derails (main line and siding)
- Unit train length slot tracks
- Power switches & derails (main line and siding)

The Zone D property provides the UPRR-required minimum clear length of 7,000 feet for a siding track to clear the main line. This is an absolute requirement of UPRR. This needed length clears the main line so UPRR's trains can continue to operate unimpeded. This length would allow UPRR to switch out cars at the proposed TVRC facility without blocking the main line track. Existing infrastructure such as bridges, main line curvature, and public at-grade crossings are all constraining factors to consider when evaluating a site for the potential to clear the main line. This distance between public crossings and other such infrastructure at this site is conducive to being able to clear the main line. The proposed layout also keeps the public crossing to the south at Gamble Road clear during site operations. There is a private crossing on the north end that will need to be crossed and temporarily blocked with railroad spurs.

Alternatively, the private crossing could be closed with alternate access provided. Negotiations with the two affected landowners and the owner of the private crossing, are underway. A viable alternative to close the private crossing appears feasible. The proposed rail layout can operate as desired regardless of whether or not the private crossing is closed. Either option would still allow UPRR to clear the main line and switch this facility.

The Zone D property also allows for sufficient track lengths for the working tracks to provide in-bound and out-bound tracks and car storage. UPRR requires this capacity at the site to handle any influxes of cars at the site and allow for expansion.

This site is also ideal because the frontage along the UPRR is 1 mile long and the interchange yard (the support tracks and working tracks) can be located along the UPRR ROW. UPRR has 100 feet of ROW on either side of the main line track, which will allow the facility to lease some of this ROW at no or little cost. This would provide for a more efficient layout and would minimize the railroad infrastructure that is located on the site by constructing track within the UPRR ROW.

The minimum land required for the interchange yard and the reload center is approximately 30 acres. This frees up the remainder of the land for a rail served industrial park. The size of this site and the layout of the interchange yard would allow for an industrial park to be located adjacent to the yard. The outside track of the interchange yard would be used as an industrial lead for future growth as well as a switching lead for serving the reload center.

The proposed improvements for Phase 1 of the TVRC is to construct to support Track C with 7,000 feet minimum clear for UPRR to clear the main line. Improvements also include two support Tracks D and G for UPRR to set out in-bound cars and pull out with out-bound cars. Sufficient switching length on Track C is also provided to shove a

full cut of cars onto either Tracks D or G. Track K is proposed for a working track to load at the reload site. Sufficient track centers are provided in Phase 1 to expand the site in Phase 2 or future phases to include two additional support tracks, A and B, with 7,000 feet clear each and two more storage tracks, E and F, as well as the ability to extend Track K and add two more working tracks, I and J, for the reload center. These additional support tracks and storage tracks would support any industrial customers that develop in the future industrial park adjacent (compass west) to this facility on the Zone D property. To provide the 7,000 feet clear for Track C, the existing private crossing at Gem Avenue should be closed and an alternate access provided for property owners east of the main line.

Future phases of the reload center would consist of expanding with additional buildings on the west side to the north of the Phase 1 building and then expanding to the east side of Track K with additional buildings and two more work tracks, I and J, east of Track K.

Drawings and figures showing the proposed track layout discussed above and furthermore hereafter are included at the end of this section.

The facility is anticipated to be served by the LCA44 local, which operates Monday through Friday. Track C will be used by UPRR to clear the main line track. The local will set in-bound cars onto Track D and then pull out-bound cars from Track G south of the connection from Track K.

The customer will then move cars from Track D onto Track K for the reload center and then shove the out-bound full cars onto Track G.

As the facility grows and future phases are constructed, UPRR will utilize Tracks A, B, and C for a departure, receiving, and run-around tracks. Essentially, the tracks will be used for an in-bound train with empty cars on one track, an out-bound track with full cars on another track, and a third track for the UPRR locomotives to disconnect from one train, run-around both trains, and connect to the end of the other train.

Tracks D, E, and F would be used for car storage for the reload center and industrial park. Track G would be used for a switching lead to access the reload center and the industrial customers in the park.

Building Size and Location

The proposed reload facility building location is heavily dependent on the proposed rail layout. The building is proposed to be located in the northeast portion of the Zone D property to facilitate efficient operation with the proposed rail spur layout. The initial site for the TVRC was selected to minimize the needed rail spur into the facility, as shown on Figure 6-1. The building size and configuration was modeled around other successful reload facilities that were observed by the MCDC prior to building selection. The MCDC also solicited the advice of Ryan Neal, who operates and manages a similar facility at the Port of Morrow in Boardman, Oregon. Design data from other successful reload centers around the United States as well as data from personnel who manage and operate similar facilities resulted in the layout as shown on Figure 6-1. Specific building design parameters include:

- 60,000 square foot facility (initial reload center)
- Width of 110 to 150 feet
- Length of 450 to 550 feet to maximize rail frontage
- 30-foot-wide covered dock area for efficient rail loading operations
- Ability to expand facility and create connected dock areas with future buildings
- Single story facility with an office area
- Parking area for employees and visitors
- Truck staging and unloading area with efficient one-way truck traffic flow

Truck Scale Facility

The proposed improvements for the reload facility need to include a truck scale facility. The truck scale facility is to weigh the incoming load to the site and the outgoing empty truck/trailer combination to determine the net weight of the commodities to be reloaded onto the rail unit train. The proposed truck scale facility is shown at the main site entrance on Figure 6-1. This facility is located at the entrance so it can be efficiently utilized for all trucks entering the site to access the proposed TVRC, as well as future reload area expansion facilities. In addition, other site development that occurs on the Zone D property will access the site at the same main entrance. Thus, the truck scale facility, as shown, is optimally located to be readily accessible to all site occupants who may have the need for a truck scale facility.

The truck scale facility was located with both a scale for incoming and outgoing trucks to minimize site wait times for the scale. In addition, the scale facility was located at a turnout adjacent to the main entrance so as not to hinder other site access and operational traffic that can directly access the site without accessing the scale. In addition, the turn out area for the truck scale facility was sized to accommodate a truck/trailer being weighed, as well as two additional truck/trailer units waiting to be weighed, all without impeding regular site access.

Truck Traffic Flow Considerations

Considering efficient flow of truck traffic was a paramount consideration learned from visiting other facilities and interviewing managers of the facilities. Efficiency of operation is paramount, with the goal being to minimize the time a truck is waiting to access the reload structure. Efficiencies related to being weighed, both coming and going, were discussed in the prior section.

Figure 6-1 includes flow arrows for the anticipated truck flow pattern entering and leaving the proposed TVRC facility. Anticipated truck flow is as follows:

- A loaded truck would enter the site at the main site entrance off Arcadia Boulevard. The truck would either proceed to the facility (if not needing to be weighed) or enter the truck scale facility, as needed).
- Truck traffic would use the main access road just west of the TVRC and proceed north to the truck staging area parking lot.
- If staging is needed, the truck can park in the staging area until it can access the reload center.
- Trucks would then travel south to the reload center, and back into the unloading area. This layout and flow were selected to allow the truck to be able to back over the driver's left shoulder, which is much safer than backing the other direction where direct line of site is not available to the driver.
- The truck would then be unloaded. Drivers can utilize a break room in the office area if needed during unloading operations.
- When unloaded, the trucks can exit the reload center to the south, and then back to the truck scale facility or the site exit onto Arcadia Boulevard.

The above traffic flow is one way, which is intended to minimize truck traffic conflicts as well as provide an efficient means for truck traffic to enter and leave the Zone D property.

General Site Utilities

Utility services needed at the site include water, sewer, power, and fiber optics (phone, etc.). A brief description of area utilities, as well as investigations to date for these facilities, is as follows:

- **Water and Sewer** – Water and sewer service to the site can be provided by the City of Nyssa, Oregon. The Nyssa City Council has agreed, via ordinance, to extend water and sewer service to the Zone D property. A preliminary layout of the extension of water and sewer service from the City of Nyssa's existing municipal water and sewer systems is included in a drawing at the end of this section. Municipal water and sewer service will extend up Arcadia Boulevard from the City's existing systems to the Zone D property. The anticipated route of

the water and sewer extensions has already been surveyed, and a preliminary design has been completed by the City of Nyssa's City Engineer, which is HECO Engineers of Payette, Idaho.

- **Power** – Idaho Power provides electrical power service to the site and surrounding area. Three-phase power lines are present both along Arcadia Boulevard and Gem Avenue. Arcadia Boulevard has a significant three-phase transmission line, which is adjacent to the site. Inquiries with Idaho Power have indicated that sufficient capacity is present in the Arcadia Boulevard line to adequately serve typical industrial power needs at the Zone D property. With Arcadia Boulevard being adjacent to the Zone D property, power is readily available to the project site.
- **Natural Gas** – Natural gas is provided to the site and surrounding area by Cascade Natural Gas. The nearest natural gas line is in State Highway 20. Initial discussions with Cascade Natural Gas has shown that they are willing to extend service from the nearest main line to the Zone D property if a customer with sufficient gas needs will locate on the site.
- **Fiber Optic and Phone Service** – Fiber optic lines and phone lines are present in Arcadia Boulevard, immediately west of and adjacent to the Zone D property. With both services readily available adjacent to the site, extension of the services will be simple.

Site Access Options

Most of the truck traffic for the facility is expected to utilize State Highway 20, which is located just west of the Zone D property. Section 10 of this proposal summarizes efforts related to site access. Specifically, a meeting was held with ODOT Region 5 personnel to brainstorm the best way to access the Zone D property. Three alternatives were presented, as shown in Section 10.

The preferred site access alternative was to construct a new access road extending directly from State Highway 20 east to the midpoint of the west side of the Zone D property. The new access road would require acceleration and deceleration lanes on Highway 20, as well as a center turn lane. The site access options and pros and cons of each option are discussed in Section 10.

Future Expansion of Reload Facility

The layout of the initial TVRC as shown on Figure 6-1, was prepared with the full intention of providing an extremely efficient means to expand the TVRC. The rail spur to be located on the east side of the reload center can easily be extended north as far as necessary to accommodate at least four more reload buildings of similar size to the initial building. In addition, spur lines can be installed adjacent to the proposed spur line to accommodate another run of reload buildings, possibly a cold storage facility, just east of the spur lines in the northeast corner of the Zone D property. Sufficient room is available on the east site of the spur lines to construct three times the square footage as initially proposed for the reload center. In total, the 60,000 square foot reload center could be expanded to accommodate approximately ten times the square footage with the current proposed layout. Furthermore, each facility on each side of the spur line will utilize a common public dock layout. All buildings on each side of the spur line will be able to transfer product to each structure along the common dock area, as needed for cross usage and cross storage.

The rail spur and building location design was prepared as shown on Figure 6-1 to allow for simple and efficient expansion of reload operations, all while utilizing the initially constructed rail spurs, access roads, truck scale facility and site utilities. As a result, after the initial infrastructure investment and initial reload center is constructed, future expansions should be much less expensive to accommodate future operations and customers.

Future Expansion of the Zone D Property

The Zone D property includes a total of approximately 290 acres of relatively flat area. Initially, approximately 100 acres is needed to accommodate the initial rail and access road layout, the initial reload center, parking and staging areas, the wetlands, and the future expansion area for the reload center to the north (both sides of the rail spur system). With the site being 290 acres, this leaves an additional approximately 190 acres for future development of the Zone D

property. Economic analyses have shown that considerable support businesses and related operations are anticipated to locate adjacent to the reload center. The preliminary site layout was prepared with this intent in mind.

Figure 6-1, which shows the initial TVRC layout with the reload center expansion area to the north, also shows several possible industrial lots on the Zone D property, including a proposed interior road and additional lots on the south side of the property. These lots range in size from 7 acres to approximately 16 acres. The lots are conceptual and can be sized as needed to accommodate potential businesses that desire to locate on the Zone D property.

Conclusions

The due diligence process for the Zone D property for the proposed TVRC has shown that the site is believed to be free of contamination concerns, has no cultural resource concerns, has some wetlands that can be mostly avoided and mitigated, where required, and has soils that will accommodate the proposed improvements. Preliminary engineering work has shown that the site is sufficient in size and has adequate UPRR rail frontage to meet UPRR rail spur requirements, can accommodate the proposed TVRC structure with adequate future expansion area, can receive truck traffic from the nearby state highway with minor area impacts, and can be reasonably served by nearby existing utilities (water, sewer, power, natural gas, etc.).

The intent of the due diligence and preliminary engineering is to verify that the site can function as planned, and that the proposed site layout will adequately serve the improvements as well as adequately expand when needed. Upon completion of this work, MCDC believes the Zone D property and the proposed site layout is achievable with the funds allocated to the project.

Project Cost Estimates

Detailed cost estimates for the proposed improvements have been prepared by RailPros (rail improvements), Fisher Construction Group (reload structure), HECO Engineers (water and sewer from the City of Nyssa), and site development and roadway improvements (AP). The intent of the cost estimates is to help ensure the proposed improvements can be constructed with the available funds.

Initial cost estimates exceeded the available project funding, as they included both the initial Phase 1 investment and the Phase 2 portion of the project. Each entity assisting with the preparation of cost estimates was tasked with reducing costs, where feasible, to bring the proposed improvements within the project budget. In addition, some desired items were excluded from the revised cost estimates to help bring the project within budget. Some items that were modified include the following:

- Sewer service from the City of Nyssa was excluded. The project currently assumes sewer service can occur on site (as a temporary solution). Sewer service from the City of Nyssa can be included in the Phase 2 improvements.
- The State Highway 20 modifications as well as the new access road from State Highway 20 to the site were eliminated. The initial Phase 1 truck traffic can utilize Columbia Avenue and Arcadia to access the site. The State Highway 20 modifications and the new access road will be constructed as part of the Phase 2 improvements.
- One rail spur (interior spur) was removed from the initial improvements. The rail spur can be added as part of the Phase 2 improvements.
- The initial site building size was reduced to 60,000 square feet, and the building configuration was modified to be slightly narrower so the rail spur frontage along the dock could be extended.

While these modifications result in some recommended improvements not occurring as part of the initial $26 million project, the improvements included in the initial project readily achieve all the desired goals of constructing a reload center for the Treasure Valley area. Additional funding will be required in the future to expand the facility as desired.

Assumptions for the estimated costs outlined hereafter are as follows:

- The estimated costs are based on current preliminary estimates of needed infrastructure to serve the proposed Phase 1 site improvements for the Zone D property.
- These costs have been prepared to provide a preliminary estimate of the total project cost now that considerable initial analysis has been completed for the proposed site layout and needed infrastructure to serve the site.
- The estimated costs for construction items below include a 10 percent construction contingency.
- While detailed cost estimate spreadsheets are available in the Appendix for reference, only the total costs are shown hereafter for simplicity.

Task	Estimated Cost
Land Acquisition	$ 1,600,000
Design Engineering	$ 1,196,000
Permitting, Management, Miscellaneous	$ 455,000
Site Roadways, Layout, Parking, Utilities, Stormwater, Wetland Mitigation	$ 4,380,000
Reload Building	$ 6,758,000
Rail Improvements	$ 10,020,000
Water Extension from City of Nyssa	$ 1,283,000
Exterior Road Improvements	$ 308,000
TOTAL ESTIMATED PROJECT COST	**$ 26,000,000**

The above cost estimates are all inclusive, meaning the total cost for construction items includes design and construction engineering, additional permitting, and wetland mitigation, as well as a 10 percent construction contingency.

TREASURE VALLEY RELOAD CENTER

PRELIMINARY ESTIMATED TOTAL PROJECT COST

September 13, 2018

Assumptions for the estimated costs outlined hereafter are as follows:

- The estimated costs outlined herein are based on current preliminary estimates of needed infrastructure to serve the proposed Phase 1 site improvements for the Zone D property.
- These costs have been prepared to provide a preliminary estimate of the total project cost now that considerable initial analysis has been completed for the proposed site layout and needed infrastructure to serve the site.
- The estimated costs for construction items below include a 10% construction contingency.
- While detailed cost estimate spreadsheets are available, only the total costs are shown hereafter for simplicity.

Task	**Estimated Cost**
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Rail Improvements	$ 10,020,000
Water Extension from City of Nyssa	$ 1,283,000
Exterior Road Improvements	$ 308,000
TOTAL ESTIMATED PROJECT COST	**$ 26,000,000**

Fisher Construction Group, Inc.
Main: 360.757.4094
Fax: 360.757.4005
625 Fisher Lane
Burlington, Washington 98233
www.fishercgi.com

Treasure Valley Reload Center (OPT 2)

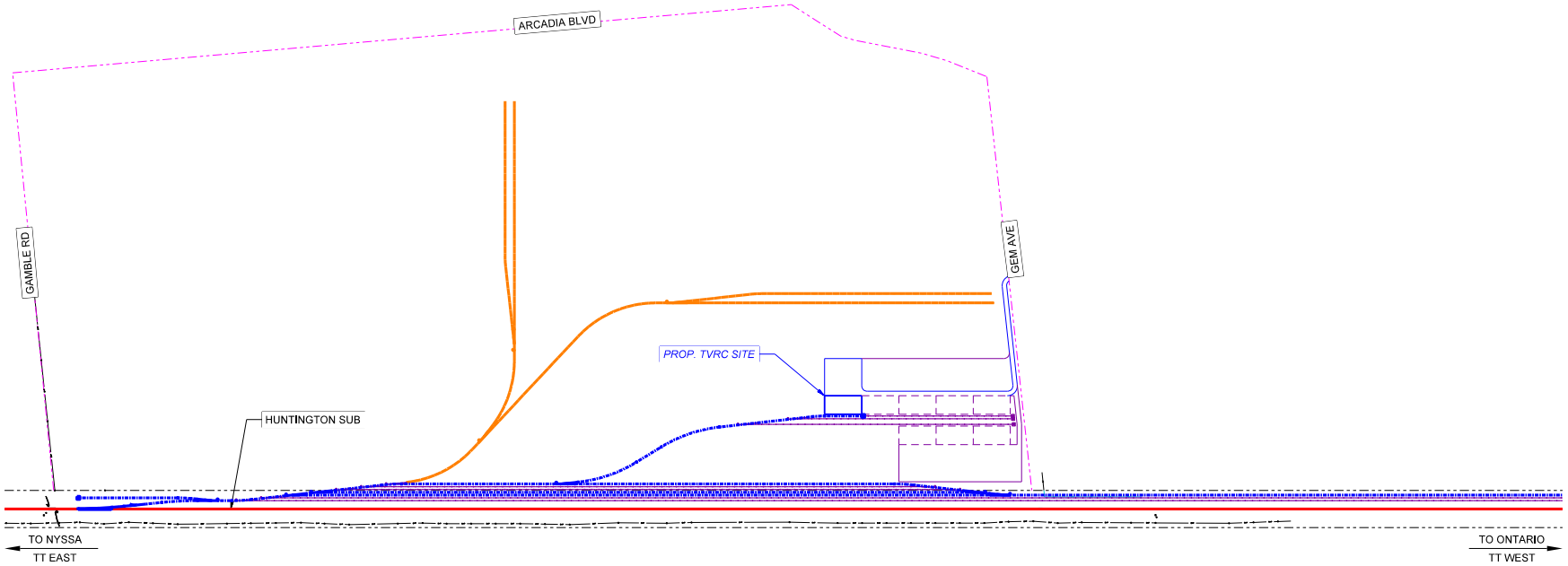
ROUGH ORDER OF MAGNITUDE PRICING

	Date:	**9/18/2018**		
	REV #:	**02**		
	Square Footage:	**61,750**		
ARCHITECTURAL AND ENGINEERING	**$**	**150,000.00**	*$ 2.43 /SF*	
GENERAL REQUIREMENTS	**$**	**479,180.00**	*$ 7.76 /SF*	
DEMOLITION, SITEWORK, & UTILITIES	**$**	**362,250.00**	*$ 5.87 /SF*	
CONCRETE	**$**	**1,358,705.00**	*$ 22.00 /SF*	
MASONRY	**$**	**74,859.00**	*$ 1.21 /SF*	
STRUCTURAL STEEL & MISC STEEL	**$**	**1,432,152.50**	*$ 23.19 /SF*	
THERMAL AND MOISTURE PROTECTION/FLASHING & SHEETMETAL	**$**	**433,050.00**	*$ 7.01 /SF*	
DOORS AND WINDOWS	**$**	**437,400.00**	*$ 7.08 /SF*	
FINISHES	**$**	**96,350.00**	*$ 1.56 /SF*	
EQUIPMENT & SPECIALTIES	**$**	**374,480.00**	*$ 6.06 /SF*	
INSULATED METAL PANELS / FLASHINGS	**$**	**832,240.00**	*$ 13.48 /SF*	
PLUMBING HVAC	**$**	**373,250.00**	*$ 6.04 /SF*	
ELECTRICAL	**$**	**831,772.50**	*$ 13.47 /SF*	
CONSTRUCTION COSTS	**$**	**7,235,689**	*$ 117.18 /SF*	
B&O TAX	**$**	**34,080**	*$ 0.55 /SF*	
INSURANCE	**$**	**66,568**	*$ 1.08 /SF*	
SUBTOTAL	**$**	**7,336,337**		
CONTRACTORS FIXED FEE FOR OVERHEAD AND PROFIT- 7%	**$**	**513,544**	*$ 8.32 /SF*	
ROUGH ORDER OF MAGNITUDE	**$**	**7,849,881**	*$ 127.12 /SF*	

NOTES AND QUALIFICATIONS

1. COURSE OF CONSTRUCTION INSURANCE IS NOT INCLUDED
2. STATE SALES TAXES ARE NOT INCLUDED
3. BUILDING PERMITS FEES NOT INCLUDED
4. PHONE, DATA AND COMMUNICATION SYSTEMS NIC
5. EXCLUDES UTILITY HOOK-UP FEES, PRIMARY POWER UPGRADES AT STREET, ETC
6. EQUIPMENT UTILITIES UNKNOWN AND NOT INCLUDED IN THE BUDGET
7. ELEVATOR HAS NOT BEEN INCLUDED
8. STORAGE RACKING NOT INCLUDED
9. ASSUMED ENOUGH EXISTING WATER FLOW CAPACITY FOR FIRE SUPPRESSION SYSTEM
10. EXCLUDES OFFICE FURNISHINGS
11. 2000 LF OF INTERIOR CURB FIGURED
12. 25' X 50' SINGLE STORY OFFICE INCLUDED
13. EXCLUDES WAREHOUSE REFRIGERATION / CLIMATE CONTROL

TREASURE VALLEY RELOAD CENTER
MILEPOST 490.87 TO 492.61, HUNTINGTON SUBDIVISION
AUGUST 16, 2018



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DEVELOPMENT CONCEPT

REV. #	BY	DATE	DESCRIPTION

PRELIMINARY
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RAILPROS FIELD SERVICES
360 S. FORT LN. STE. # 3A - LAYTON, UTAH 84041
www.railprosfs.com

FIBER OPTIC CABLE — CALL BEFORE YOU DIG 1-800-336-9193

STAMP

LEGEND:
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- PROPOSED TVRC TRACK - PHASE 1
- FUTURE TVRC TRACK
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DRAWN BY: HH
CHECKED BY: SM
FES NUMBER:
DATE: 8/16/2018
SHEET NUMBER: 1 of 5

FOR USE IN AGREEMENT WITH: **UNION PACIFIC RAILROAD**

LOCATION & DESCRIPTION:
MILEPOST 490.87 TO 492.61, HUNTINGTON SUBDIVISION
NYSSA, MALHEUR COUNTY, OREGON
TRACKAGE TO SERVE: TREASURE VALLEY RELOAD CENTER

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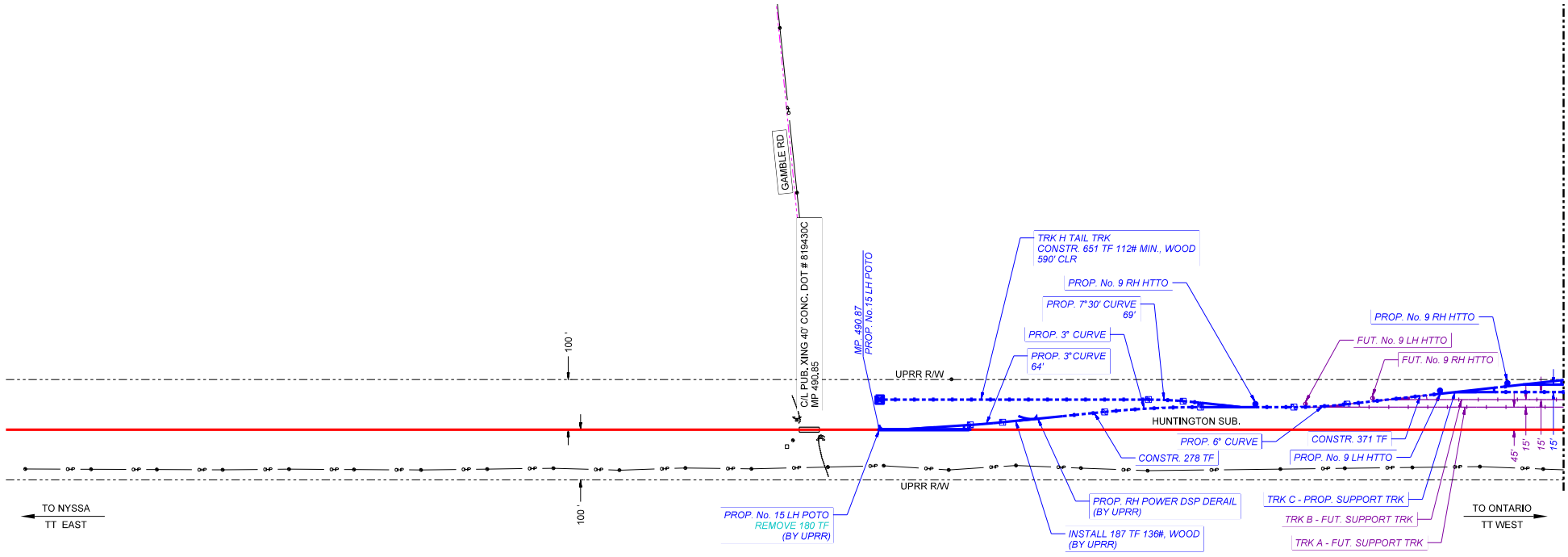

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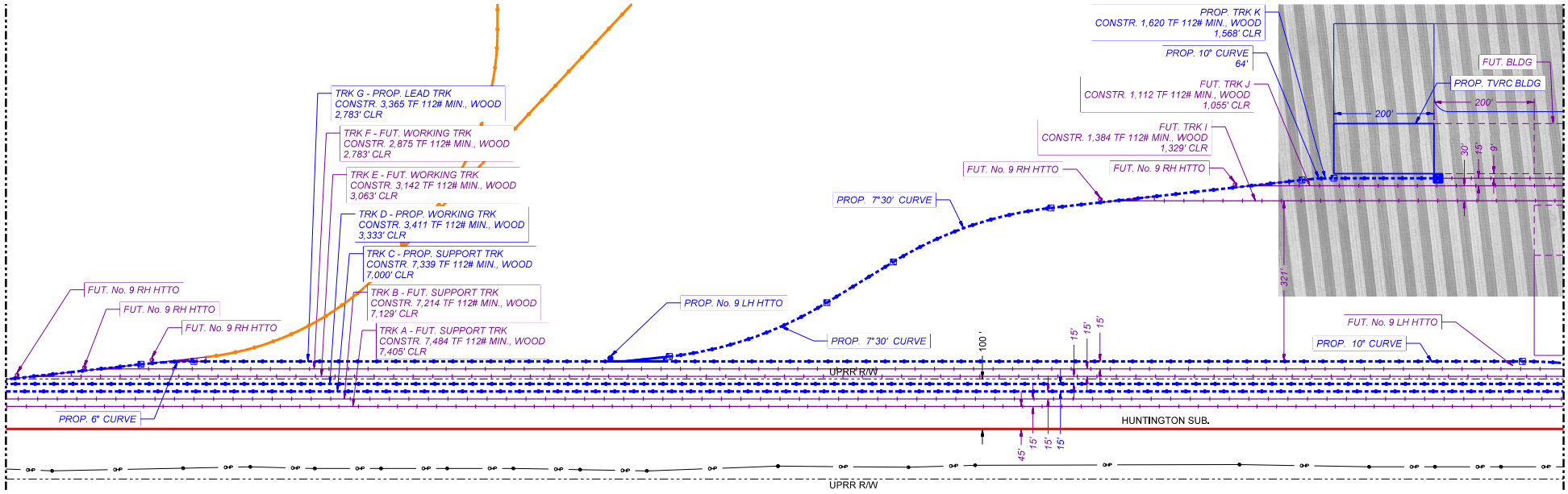

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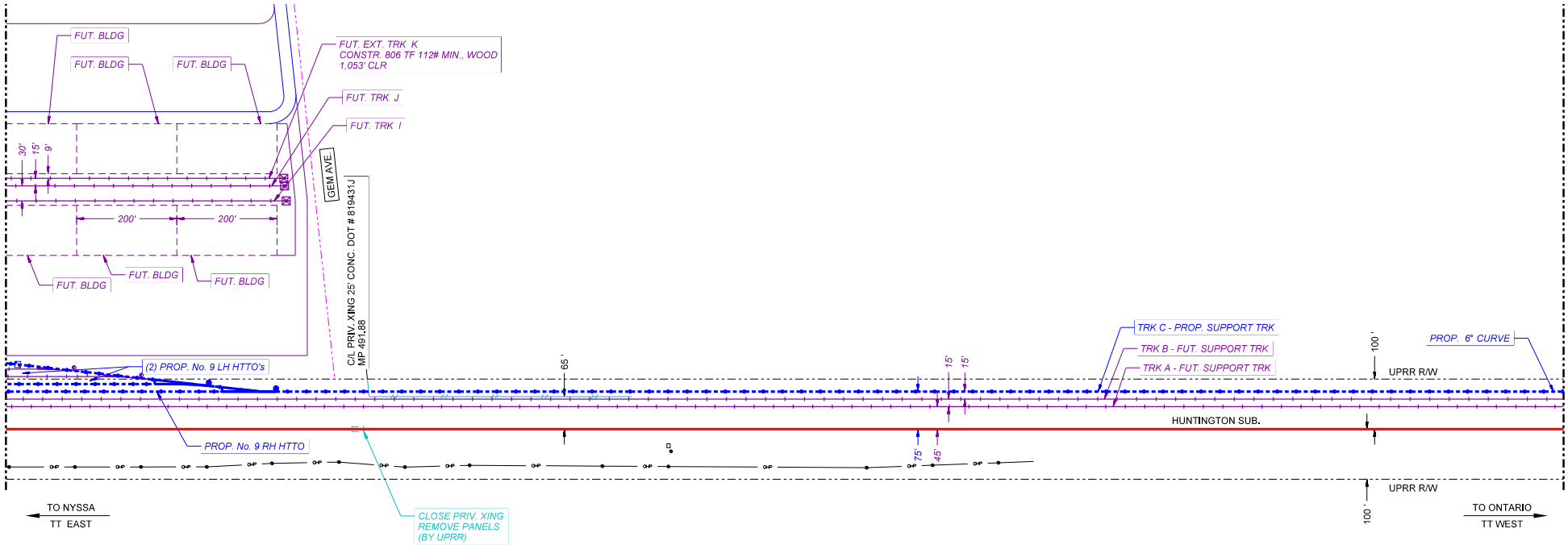

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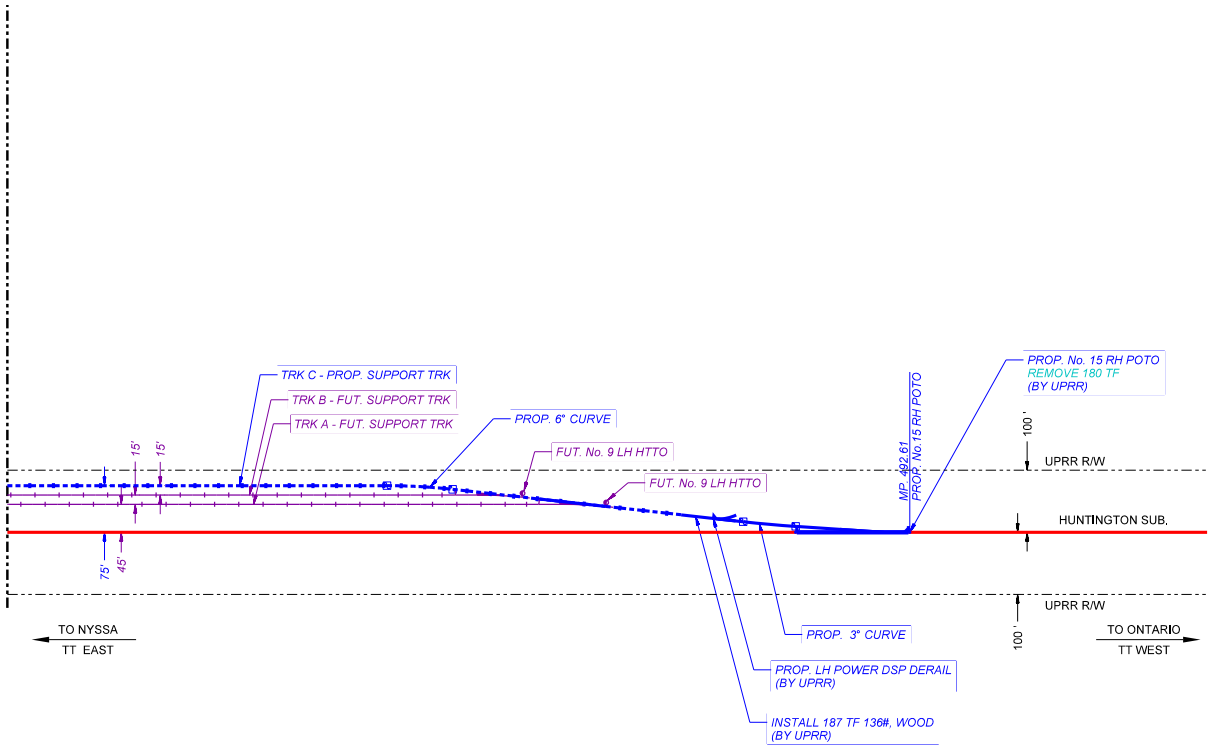

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8/18/2018

CHECKLIST FOR INDUSTRY TRACK SUBMITTALS

NAME OF INDUSTRY	PROJECT LOCATION	UPRR FES NUMBER
TREASURE VALLEY RELOAD CENTER	NYSSA, OR	
NAME OF FIRM SUBMITTING	**CHECKLIST SUBMITTED BY**	**DATE OF SUBMITTAL**
RAILPROS, INC.	SHAWN MARSHALL, PE	8/6/2018

Item	Description of Items to be Shown on Submittals	Railroad Work				Non Railroad Work ***			No ITA Issued		Railroad Comments
		10% Plan/ Dev Con	30% Plans	Const Plans	Exhibit 'A'	10% Plan/ Dev Con	Const Plans	Exhibit A	10% Plan/ Dev Con	Const Plans	
1	**1:100 scale plan sheets, 11x17 sheets, UPRR border, line styles, abbreviations and symbols used, printed in color;** North arrow, Mainline track name, Timetable direction and Timetable Station each side of project, customer's name, project location (city, county, state) **PDF format required for all submittals. Please submit the entire package in 1 pdf including the checklist.**	X									
1a	Aerial Photo background shown in monotone (adjust aerial to approx. -50 contrast, 80 brightness)	X									
1b	Disclaimer shown on each sheet (Available in UPRR Cad Config files)	X									
1c	Print using pen table "UPRR_V8i_Pentable_Bold NID Linestyles.tbl" (Available in UPRR Cad Config files)	X									
2	Label Ex. tracks with ZTS numbers, Prop. tracks with alpha-numeric names (Trk A, Trk B, etc.). Show all Derails & Ex. signals.	X									
2a	Label Ex. tracks with ZTS numbers, Prop. tracks with alpha-numeric names (Trk A, Trk B, etc.). Station & MP (based o UPRR VAL map) shown for turnouts on UPRR track . Show all Derails & Ex. signals.										
3	Show clear lengths for Prop. tracks. 13' clear pt. shown for tracks where cars will be stored. (Plans need to include note "Rail and Tie to be marked with yellow paint at 13' clear point)	X									
4	Eng. Stations shown on proposed tracks										
5	**Work Responsibility/Scope of Work - 10% - "Work Responsibility"**: General statement of project work responsibility for RR and Contractor. **30%, Construction and Exhibit "A" - "Scope of Work":** Detailed list of work responsibility for RR and Contractor										
6	Other than required connections, customer tracks and facilities will be designed to be separate from UPRR right-of-way property. All customer tracks must be at least 45 feet away from any UPRR mainline. See Industry Specifications secti 3.03 for additional details.	X									
7	Project Exemptions - List all exemptions being requested for project.**Special approval will be required by UPRR**	N/A									
8	Existing tracks - UP's track number and any proposed sale or lease of UP owned track(s) (or portion of)	X									
9	All tracks - Total length, stationing of 13' clearance point, derail stationing (describe type), end of track stationing (describe type of EOT device) and center to center distance between all tracks.										
10	Proposed tracks - Provide Engineering Station of "End UPRR Ownership/Maintenance" sign										
11	Proposed tracks - Provide Engineering Station where proposed track crosses UPRR ROW line										
12	Description of point that track stationing was established from and location/desc. of elevation bench mark										
13	Typical sections for proposed track including side ditches and walkways (also see note #48)										
14	Cross-sections: Show entire project plus 200 ft. past the end of the project. Special sections needed at roadway crossings, utility crossings, drainage structures and other key points. Show UPRR ROW, any construction easements, walkways and turnout pads.										
15	For projects involving Signal work, provide cross sections AND profiles for UPRR owned/maintained track on the 30% plans. Provide cross sections at 100 ft. intervals, plus special sections as listed in item #12.										
16	Label length for any tangents and curves that are less than 100'	X									
17	Proposed tracks - Degree of curve labeled, circles marking PC & PT on all curves	X									
17a	Proposed tracks - Degree of curve and stationing of PC and PT on all curves										
18	Provide a **Construction Schedule**										
19	**Future Tracks**	X									No future tracks on the Exhibit "A"
20	Work Matrix Spread Sheet (Titled "**Scope of Work Matrix**") Incorporated into plans set										
21	Rail Weight - All existing and proposed track										
22	UPRR ROW width and distance to track it's established from. Note on plan set the source for ROW location and width (ex. UPRR Val maps)	X									
23	**Existing turnouts** shown on plans (**within 1500' of proposed turnouts**) - Size (No. 11, No. 15, etc.)	X									
23a	**Existing turnouts** (**within 1500' of proposed turnouts**) - Size (No. 11, No. 15, etc.), stationing and mile post location (UP Track), Track # if stenciled on frog										
24	Label Prop. turnouts with: Size, LH or RH, PO or HT, frog type, rail weight, tie material, station & MP. Designate point of switch as 0+00 on single ended tracks. On double ended tracks start sta. 0+00 on turnout with the lowest UPRR MP. Refer to UP Std Dwg 0080 for turnout applications.										
25	Turnout construction pad-location and dimensions (for work performed by UPRR forces)										
26	**Landing Pads** with turnaround area, lighting (ref STD DWG 0309)										
27	For projects involving signal work, show existing site conditions and all track, crossings, signal facilities, etc. within 150 ft. of proposed turnouts. **A minimum 750 ft. on either side of the project limits must be shown on the 30% submittal.**										
28	Existing UP signal lines, masts, houses and cases, etc. Include dimensions, stationing and # found on cases for xings, block plates and CP's Provide stationing for existing insulated joints.										
29	Proposed leaving signals - I - bonds, insulated joints - (stationing)										
30	Proposed Industry tracks with required signal circuits must reference the end of each circuit where mandatory wood ties and insulated materials must be used.										
31	All track culverts - stationing, mile post location (UP Track), length, size, type, T/R to Invert distance, and any proposed modifications of an existing culvert. Note on plans that culverts shall be marked with blue paint on ties over crossing.										
32	All track bridges-stationing, mile post location (UP Track), length, type, T/R to flowline distance, and any proposed modifications of an existing bridge										
33	All other drainage structures (under roads, surface drains, etc.) - location, size, length and type										
34	Proposed drainage structures-submit hydraulic design calculations for review and approval										
35	Direction of runoff throughout project area										
36	Submit detailed plans for any proposed bridge or culvert (or modification of an existing) or any proposed under or over track structure to UP Structures Dept for approval										
37	Existing road crossings (**within 1500' of proposed turnouts**) - Length, type (public/private), material type, type of warning device, stationing, and mile post location (UP Track), road name and DOT #.										
38	Proposed road crossings shown on plans	X									
38a	Proposed road crossings - Include length, type (public/private), material type, type of warning device, stationing, and mile post location (UP Track)										
39	All Roads or road modifications affecting traffic crossing UP tracks shown on plans	X									
39a	All Roads or road modifications affecting traffic crossing UP tracks - Location, width and type of roadway surface										
40	Existing **and** Proposed buildings adjacent to any track - Location, dimensions, doors, docks, ramps etc. and distance to track centerline	X									
41	All overhead crossings - Station (include poles, supports, etc,) distance above T/R, voltage (if electrical) and owner.										
42	All underground crossings - stationing, distance below B/R, type, encasement details and owner										
43	All utilities adjacent to any track (above or below ground) - Location (include poles if applicable), type, distance to track CL and owner										
44	All under track structures - include stationing and size										
45	All over track loading structures - include size, stationing, and clearance										
46	All car pulling or indexing devices - stationing and clearance										
47	All fences - stationing of any gate crossing and track and horizontal clearance with gate open										
48	Stationing and distance to any horizontal or vertical impaired clearance										
49	For Hazardous Materials - Label clearances of proposed tracks to ML - 100' fo *loading and unloading trks*, 50' for storage of *loaded tank cars trks* , and 100' from *storage in tanks*										
50	Verify state requirements are met. Ex. For projects located in California, refer to California PUC General Orders 26-D and 118-A for walkway/clearance requirements.										
51	Track grounding details of any track used to load or unload flammable materials										
52	Existing track profile - T/R profile (100' minimum interval) 200' each direction from proposed turnout(s) (ML connection +200' for 30% - only)										
53	Proposed track profile - T/R profile of each track at 100' maximum interval, include stationing of vertical curve points (ML connection+200 ' for 30% only)										
54	All other profiles -Top of Road at centerline (including railroad at grade crossings) and/or drainage ditch(es)-proposed and existing elevations										
55	Digital Imagery - signed letter will be required if the Exhibit A includes an aerial photo. - INDUSTRY must sign form and submit with Exhibit A . (Forms found on the UP Web page)	N/A									Per UP Law Dept - 5/8/2015
56	"CHECKLIST FOR INDUSTRY TRACK SUBMITTALS" completed and signed (Submit with multi/page pdf doc. Int proper EDS queue.) Include justification for any Exemptions.	X									

Checklist Color Codes
Drawing Required
Switch
Signal
Drainage/Structures
Roads
Clearances
Profiles
Not Required

Project - Type		Project Documents		Project Reviews	
		Needed		Needed	
UP work	X	10% Concept	X	**Engineering**	X
Non UP Work	X	30% - Signal Design		**Signal**	
Foreign RR		Construction		**Structure**	
Manifest Trains	X	Exhibit A		1. Bridge	
Unit trains		Check List	X	2. Pit	
		Construction		3. Gas/ FO	
		Work Matrix			

(Select all Item that pertain to Project)

Recent Revisions	
Date	Description
1/3/2018	Updates to 10%/ Dev Con checklist items

Please note: Situations may arise depending on individual project details where signal work is required even though there is no track or railroad work.

[Insert Tab 7: Financial Feasibility Analysis]

7. Financial Analysis

Using the ECONorthwest financial data from prior sections, this section evaluates the TVRC operating and capital costs to assess financial feasibility and sustainability over a five-year period.

Capital Costs

The capital to purchase and construct the facility will be provided by ODOT's Keep Oregon Moving funds, as allocated by House Bill 2017. These funds are only available for capital costs and will not be used for operating costs. The funds will be used to purchase the site land; prepare it for construction; construct the rail lines, switches, and infrastructure; construct the office; pave and stripe the parking lot; and purchase equipment and machinery. The funds will also cover "soft construction costs," including architecture, engineering, legal, and accounting. Figure 22 lists the estimated capital costs.

Figure 22. Estimated Capital Costs for Constructing the TVRC

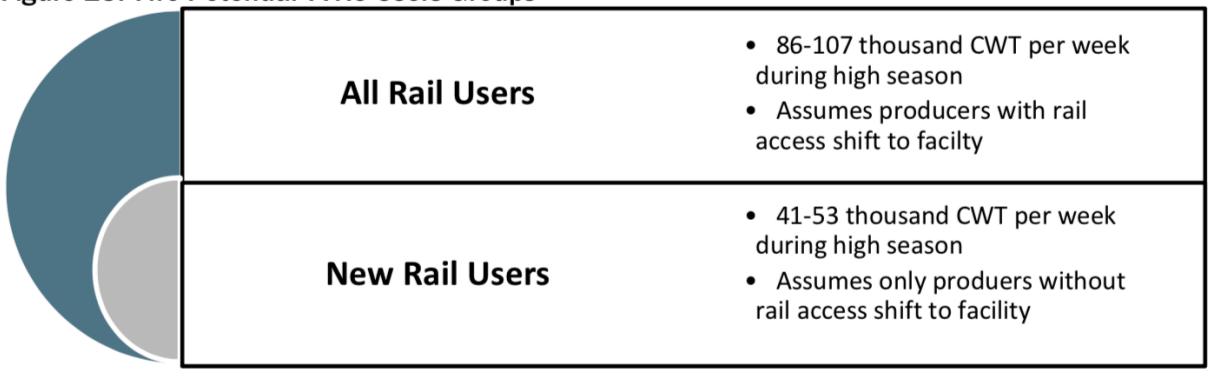
Cost Category	Estimate
Land Acquisition	$1,600,000
Design Engineering	$1,196,000
Permitting/Management/Miscellaneous	$455,000
Site Roadways, Layout, Parking, Utilities, Stormwater, Wetland Mitigation	$4,380,000
Reload Building	$6,758,000
Rail Improvements	$10,020,000
Water Extension from City of Nyssa	$1,283,000
Exterior Road Improvements	$308,000
Total Estimated Project Cost	$26,000,000

Source: Malheur County Development Corporation

Operating Model

As the demand estimates show, there are two levels of potential use of the facility. Either all producers, including those that currently have rail access, shift to the facility, or only those producers who currently do not have rail access will shift to the facility. Figure 23 below demonstrates these groups. This analysis is performed on the assumption that all onion rail shipments in the Treasure Valley will pass through this facility.

Figure 23. Two Potential TVRC Users Groups



Data is sourced from the Bureau of Labor Statistics, internet research, interviews with experts, and from the proposed operations manager of the facility who manages a similar reload facility in Boardman, Oregon. The following assumptions are employed across a five-year time frame and three-year build-out:

- The facility operates five days a week. Shifts are eight hours long.
- Overtime shifts are four hours.

- Each quarter has 13 weeks.
- Once operating at estimated demand, CWT shipped does not increase or decrease.
- Fixed and labor costs appreciate at 3 percent per year.
- No allowances for increased fees are included.
- Depreciation of equipment is modeled on a straight-line 20-year basis.

Five-Year Horizon and Three-Year Build-Out

The operating proforma evaluates the facility over a five-year time period. However, it assumes that it would take three years to become fully built out and operational. This assumption was vetted by interviewees and industry experts. The model estimates the facility would capture 50 percent of expected utilization in year one, 80 percent in year two, and 100 percent in years three to five. Total CWT loaded (revenues) and variable costs are adjusted by this build-out schedule. Most fixed costs are not adjusted by this build-out schedule, with the exception of full-time operator staff, forklifts, and forklift batteries. Detailed below, the model assumes a minimum number of full-time staff would be needed to operate the facility year-round and scales this according to the build out schedule. Because the facility has full fixed costs and lower revenues, the facility is less profitable in years one and two.

Revenues

Operating a relatively simple model, the reload facility would charge a handling fee for each CWT loaded. Industry research and conversations with other facility managers suggests that a handling fee of $0.7175 per CWT is in line with the market.

In addition, the site has the potential to warehouse product, but this is not included in the Phase 1 design and is not included in the model for years one through five. Total quarterly shipments and annual revenues from the facility services in are listed on Figure 24 and Figure 25 below, including the three-year build-out schedule.

Figure 24. Projected Quarterly Shipments, CWT*

Quarter	Year 1 (50 percent)	Year 2 (80 percent)	Year 3 (100 percent)	Year 4 (100 percent)	Year 5 (100 percent)
Q1	559,491	895,185	1,118,981	1,118,981	1,118,981
Q2	75,412	120,659	150,824	150,824	150,824
Q3	151,933	243,093	303,866	303,866	303,866
Q4	697,007	1,115,210	1,394,013	1,394,013	1,394,013

Source: ECONorthwest
Note: *The model assumes a three-year build out and that year one and two are operating at 50 and 80 percent of capacity, respectively.

Figure 25. Facility Build Out and Project Annual Revenues

Year	Build Out	Annual Revenues
Year 1	50%	$1,064,657
Year 2	80%	$1,703,451
Year 3	100%	$2,129,313
Year 4	100%	$2,129,313
Year 5	100%	$2,129,313

Source: ECONorthwest

Operating Costs

The facility has numerous fixed and variable operating costs, which are outlined on Figure 26 below. As the utilization of the facility would vary seasonally, it is assumed that the facility would have a full-time staff sufficient to operate the facility during the low season and that additional staff would be hired during the high season. Property taxes are omitted due to the non-profit status of the TVRC owner/operator.

Figure 26: Fixed and Variable Operating Costs for the TVRC

Fixed Costs	Cost Assumption	Unit	Source & Notes
Utilities	$28,800	Per Year	Similar Facility Operating Costs
Property Maintenance	$10,000	Per Year	Similar Facility Operating Costs
Property Insurance	$12,000	Per Year	Similar Facility Operating Costs
Security Cameras (25)	$500	Each	Similar Facility Operating Costs
Forklifts (14)	$25,000	Each	Industry Research *Purchase seven in Y1Q1 *Purchase five at 3% inflation in Y2Q1 *Purchase two at 3% inflation in Y3Q1
Batteries (28)	$5,000	Each	Industry Research *Purchase 14 in Y1Q1 *Purchase 10 at 3% inflation in Y2Q1 *Purchase four at 3% inflation in Y3Q1
Manager Salary (1)	$67,390	Per Year	Bureau of Labor Statistics
Admin Salaries (1.5)	$115,000	Per Year	Similar Facility Operating Costs
FT Operator Wages (7)	$16	Per Hour	Industry Research (labor costs increase 3% per year)
Taxes and Benefits	30% of payroll	Per Year	Bureau of Labor Statistics
Variable Costs	**Cost Assumption**	**Unit**	**Source & Notes**
Operator Overtime Wages	$24	Per Hour	Industry Research
Seasonal Staff Wages	$24	Per Hour	Industry Research
Additional Taxes and Benefits	30% of payroll	Per Year	Bureau of Labor Statistics

Source: ECONorthwest

Staffing

The model assumes one full-time manager would oversee all business lines, carry out day-to-day operations, handle logistics with the rail lines, and coordinate with local agriculture producers. An additional 1.5 full time equivalents (FTEs) are expected as administrative staff. Industry research from staff costs at a similar facility and Bureau of Labor Statistics estimates are used to determine salary41 and benefits.

For full-time operating staff, shifts are assumed to be eight hours. Adjusted to FTEs, the facility would require approximately seven full time staff to fully operate, plus one facility manager during the low season. These staff levels were estimated from operating data supplied by a comparable facility at the Port of Morrow, Oregon. During the high season, an additional 13 to 19 seasonal (non-overtime) staff will be needed to satisfy demand. The projected seasonal staffing needs are listed in Figure 27 below.

Figure 27. Projected Seasonal Staffing Needs

Quarter	CWT Per Quarter	CWT Per Day	Labor Hours Needed per Day	FT Staff Hours per Day	Overtime Hours Per Day	Seasonal Hours Needed per Day
		5 Days/ Week	12 (3 people * 4 hours)	FT Staff * 8 hours/day	FT Staff * 4 hours/day[1]	Remainder
Q1	1,118,981	17,215	186	56	28	102
Q2	150,824	2,320	25	56	0	0
Q3	303,866	4,675	51	56	0	0
Q4	1,394,013	21,446	232	56	28	148

Source: ECONorthwest with inputs from interviewees and industry managers
[1]Overtime shifts could occur on weekends, but are assumed part of the regular day for simplicity

Using the staffing estimates for each quarter, Figure 28 describes total operating staff costs (excluding management and administrative staff) at the hourly rates given. Taxes and benefits are assumed for all full time and seasonal staff and are assumed to be 30 percent of costs.

Figure 28. Projected Quarterly Operating Staff Costs

Quarter	CWT per Quarter	FT Staff Costs	Overtime Costs	Seasonal Costs	Total Staff Costs
		$16.00/hr	$24.00/hr	$24.00/hr	Quarterly
Q1	1,118,981	$58,240	$43,680	$159,552	$261,472
Q2	150,824	$58,240	$0	$0	$58,240
Q3	303,866	$58,240	$0	$0	$58,240
Q4	1,394,013	$58,240	$43,680	$230,976	$332,896

Source: ECONorthwest with inputs from interviewees and industry managers
[1]Overtime shifts could occur on weekends, but are assumed part of the regular day for simplicity

Total Operating Costs

Figure 29 below demonstrates total operating costs for the five-year time period. Fixed costs increase in years one through three as capital equipment is acquired, then increase in years four and five due to a 3 percent annual increase built into the model. No equipment purchases are modeled in years four and five since the facility has built out capacity and bought all the necessary equipment. Variable costs increase during the build out through year three, then increase 3 percent in years four and five.

Figure 29. Annual Operating Expenses Over Phased Build Out

Year	Build Out	Operating Expenses
Year 1	50 percent	$1,007,458
Year 2	80 percent	$1,249,398
Year 3	100 percent	$1,382,615
Year 4	100 percent	$1,342,139
Year 5	100 percent	$1,382,403

Source: ECONorthwest

Financial Feasibility

The results of the operating model determine that the reload facility will likely be financially sustainable over the five years evaluated. Because the facility is ramping up production but has fully loaded fixed costs in years one and two, it is less profitable. Figure 30 below details the operating revenues, expenses, and net income of the TVRC at projected levels of demand.

Figure 30. Financial Feasibility of the TVRC

Year	1	2	3	4	5
Build out	50 percent	80 percent	100 percent	100 percent	100 percent
Revenues	$1,064,657	$1,703,451	$2,129,313	$2,129,313	$2,129,313
Expenses	$1,007,458	$1,249,398	$1,382,615	$1,342,139	$1,382,403
Depreciation	$24,500	$24,500	$24,500	$24,500	$24,500
Net Income	$32,698	$429,553	$772,198	$762,674	$722,410

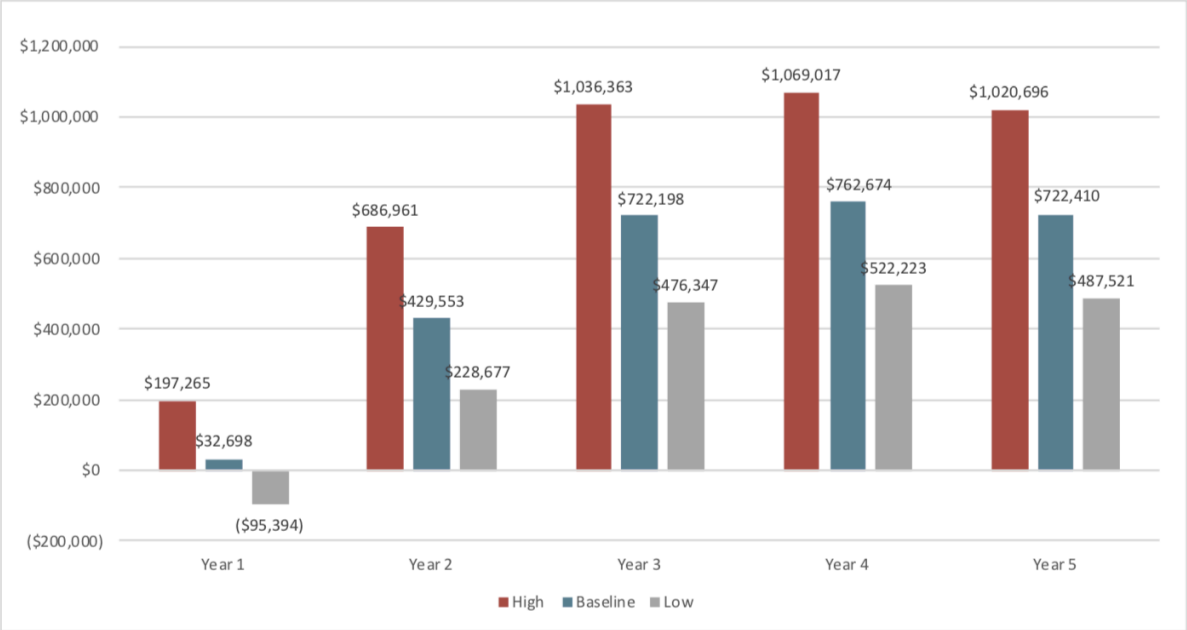
Source: ECONorthwest

Financial Sensitivity Analysis

The model allows financial sensitivity testing for different levels of demand. Using the high and low demand estimates from the sensitivity analysis, the model shows the financial outcomes if production volumes, gas prices, or market prices for the goods transported increase or decrease. The estimates in Figure 30 are the baseline.

As Figure 31 shows, the model assumes the TVRC would see positive net income in each demand state except year one in the low-demand state, when it would operate at a loss.

Figure 31. Financial Sensitivity Analysis, Proposed Treasure Valley Reload Facility



Source: ECONorthwest

Breakeven Analysis

The model also allows for a breakeven analysis to determine the price the facility needs to charge for the reloading services to break even. Looking at the five-year cumulative net income, the facility would need to charge a minimum of $0.51 per CWT to break even.

In a low demand state, this price would need to be $0.56 per CTW, and in a high-demand state, this price would need to be $0.47 per CWT.

Treasure Valley Reload Center

FORECASTED RECEIPTS & DISBURSEMENTS and
FORECASTED CASH FLOWS
For the First Five Years of Operations

NICHOLS
The Nichols Accounting Group, P.C.
Certified Public Accountants

To the Board of
Malheur County Development Corporation
Ontario, Oregon

Management is responsible for the accompanying forecast of Treasure Valley Reload Center, which comprises the forecasted receipts and disbursements and forecasted cash flow for the first five years of operations, and the related summaries of significant assumptions in accordance with guidelines for the presentation of a forecast established by the American Institute of Certified Public Accountants (AICPA). We did not examine or review the forecast nor were we required to perform any procedures to verify the accuracy or completeness of the information provided by the management. Accordingly, we do not express an opinion, a conclusion, nor provide any form of assurance on this forecast.

The forecasted results may not be achieved, as there will usually be differences between forecasted and actual results because events and circumstances frequently do not occur as expected, and those differences may be material. We have no responsibility to update this report for events and circumstances occurring after the date of this report.

Management has elected to omit substantially all the disclosures required by guidelines for the presentation of a forecast established by the AICPA other than those related to the significant assumptions. If the omitted disclosures were included in the forecast, they might influence the user's conclusions about the Treasure Valley Reload Center's forecasted receipts and disbursements and forecasted cash flow. Accordingly, the forecast is not designed for those who are not informed about such matters.

The Nichols Accounting Group

Ontario, Oregon
September 25, 2018

230 N. Oregon Street
P.O. Drawer 99
Ontario, Oregon 97914
Phone: 541.881.1433
Fax: 541.881.1444

Treasure Valley Reload Center

Forecasted Receipts & Disbursements
First Five Years of Operations

	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5
Receipts					
Facility Lease	$ -	$ 1	$ 60,000	$ 60,000	$ 60,000
CWT Fee	33,200	356,122	445,153	445,153	445,153
Total Cash Receipts	$ 33,200	$ 356,123	$ 505,153	$ 505,153	$ 505,153
Disbursements					
Insurance	$ 26,000	$ 26,780	$ 27,583	$ 28,411	$ 29,263
Maintenance	-	42,750	42,750	42,750	42,750
Security	1,200	1,236	1,273	1,311	1,351
Accounting and Legal	6,000	6,180	6,365	6,556	6,753
Total Cash Disbursements	$ 33,200	$ 76,946	$ 77,972	$ 79,029	$ 80,117
Cash From Operations	$ -	$ 279,177	$ 427,181	$ 426,124	$ 425,036

See accompanying Summary of Significant Assumptions.

Treasure Valley Reload Center
Forecasted - Cash Flow
First Five Years of Operations

	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5
Cash at Beginning of Year	$ -	$ -	$ 279,177	$ 706,358	$ 1,132,483
Cash Generated by Operations	-	279,177	427,181	426,124	425,036
Cash at End of Year	$ -	$ 279,177	$ 706,358	$ 1,132,483	$ 1,557,519

See accompanying Summary of Significant Assumptions.

Treasure Valley Reload Center

Summary of Significant Assumptions
First Five Years of Operations

NOTE A - Summary of Significant Assumptions

This financial forecast presents, to the best of management's knowledge and belief, the Company's expected receipts and disbursements and cash flow for the forecast period. Accordingly, the forecast reflects management's judgment as of September 25, 2018, the date of this forecast, of the expected conditions and its expected course of action. The assumptions disclosed herein are those that management believes are significant to the forecast. There will usually be differences between the forecasted and actual results, because events and circumstances frequently do not occur as expected, and those differences may be material.

Certain items of assumptions were derived by management based on an ECONorthwest report dated September 21, 2018. A copy of this report may be obtained from management.

The set of assumptions below are used to derive a forecast of the net lease income of Treasure Valley Reload Center. It is expected the facility will be leased by a third party, for-profit lessee.

Facility Lease

	Year 1	Year 2	Year 3	Year 4	Year 5
Yearly lease:	$ -	$ 1	$ 60,000	$ 60,000	$ 60,000

Hundred Weight (CWT) Fee

	Year 1	Year 2	Year 3	Year 4	Year 5
Fee per CWT	$ 0.15	$ 0.15	$ 0.15	$ 0.15	$ 0.15
Maximum Annual CWT Capacity	2,967,686	2,967,686	2,967,686	2,967,686	2,967,686
Estimated Capacity Usage	50%	80%	100%	100%	100%

In Year 1, the CWT Fee is limited to the lesser of the Fee per CWT multiplied by CWT Shipped or actual expenses.

Maintenance

	Year 1	Year 2	Year 3	Year 4	Year 5
Linear Feet of Rail	17,100	17,100	17,100	17,100	17,100
Estimated Cost per Linear Foot	$ -	$ 2.50	$ 2.50	$ 2.50	$ 2.50

Insurance

Annual insurance:	$ 26,000
Estimated annual increase:	3.0%

Security

Monthly security expense:	$ 100
Estimated annual increase:	3.0%

Accounting and Legal

Monthly accounting and legal:	$ 500
Estimated annual increase:	3.0%

[Insert Tab 8: Return on Investment Analysis]

8. ROI Analysis

Anticipated Annual Revenue from Operations of Facility

Operating a relatively simple model, the reload facility would charge a handling fee for each CWT loaded. Industry research and conversations with other facility managers suggests that a handling fee of $0.7175 per CWT is in line with the market.

In addition, the site has the potential to warehouse product, but this is not included in the Phase 1 design and is not included in the model for years one through five. Total quarterly shipments and annual revenues from the facility services in are listed on Figure 24 and Figure 25 below, including the three year build out schedule.

Figure 24. Projected Quarterly Shipments, CWT*

Quarter	Year 1 (50 percent)	Year 2 (80 percent)	Year 3 (100 percent)	Year 4 (100 percent)	Year 5 (100 percent)
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Q4	697,007	1,115,210	1,394,013	1,394,013	1,394,013

Source: ECONorthwest
Note: *The model assumes a three-year build out and that year one and two are operating at 50 and 80 percent of capacity, respectively.

Figure 25. Facility Build Out and Project Annual Revenues

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Year 3	100%	$2,129,313
Year 4	100%	$2,129,313
Year 5	100%	$2,129,313

Source: ECONorthwest

***More information provided under Section 7 "Financial Feasibility Analysis"*

Anticipated Direct and Indirect Job Creation from Facility

The TVRC will generate positive economic impacts by increasing local jobs, incomes, and output. Any increase in economic activity in the study area has the potential to filter through the economy and create downstream benefits in the region. This section presents the results of an economic impact analysis of the TVRC and estimates how the number of jobs, profits of certain industries, and government tax revenues might change.

Economic impacts are best calculated as marginal impacts that occur as a result of one or more scenarios. For the purposes of this analysis, the baseline scenario is considered to be the status quo state of the world, in which agricultural products are shipped either from private rail sidings in the Treasure Valley, the ColdConnect Facility in Wallula, Washington, or by truck to destinations throughout the contiguous United States. The alternative scenario includes the construction of the TVRC that will operate at levels outlined in other sections of this report. Although the TVRC will result in shippers reducing their reliance on other shipping alternatives in the baseline scenario, no estimate in the decline in jobs or revenue to existing rail facilities or the trucking industry is included. Furthermore, the opportunity cost of Oregon's contribution to the facility is also not included. In particular, this analysis does not

evaluate the source of funding and the implications of that wealth transfer in the economy. To this extent, the estimate produced can be considered an estimate of the gross economic contribution of the facility as opposed to a net analysis.

Economic impacts must also be calculated within a defined geography. The gross effects of the TVRC's economic activity are quantified for the Oregon portion of the primary study area, specifically Baker, Harney, and Malheur Counties. Additional economic impacts may occur through the Idaho portion of the study area and the remainder or Oregon, but they are not quantified here.

Methodology

Upon construction of the TVRC, economic impacts can potentially occur through three primary mechanisms:

1. **Construction Spending**—Expenditures on labor, raw materials, and transportation associated with construction of the facility. These are primarily derived from the portion of the State of Oregon's capital investment in the facility.
2. **Facility Operations**—Expenditures on labor associated with operating the facility. These are derived from fees that users of the facility will pay.
3. **Grower/Shipper Cost Savings**—Cost savings that accrue to users of the facility that are then spent on other economic activities in the region. This is conditional on the costs of using the facility being lower than existing alternative transportation options.

Items 1 and 2 are easily quantified based upon available information. Construction spending impacts are developed based on estimates. Facility operation impacts are developed from the proforma which estimates the labor requirements necessary to operate the facility.

Item 3 is more nebulous, difficult to quantify, and is not included as an input in the economic impact analysis. Although there are potential direct benefits to growers and shippers in the region if the facility offered an unlimited quantity of service at lower costs than currently available from alternative transportation means, there is limited available information on the investment, spending, and debt patterns of growers and shippers in the region. This lack of information makes reliable calculation of indirect and induced effects difficult. To the extent that growers and shippers do ultimately observe lower transportation costs, additional economic impacts in excess of those estimated here are likely to occur.

Input-Output Modeling

The economic contribution of the TVRC is calculated using the 2016 version of IMPLAN, an input-output model that calculates the increases in jobs, incomes, and output statewide that happen as money is spent locally. The increases are the result of the "multiplier effect" that occurs as dollars circulate throughout the economy.

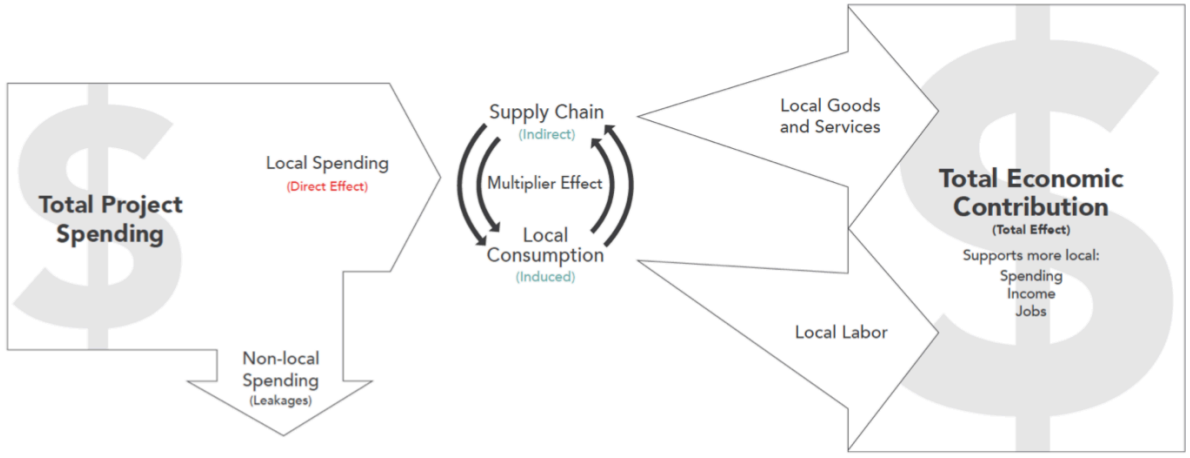
Economic contribution studies use specific terminology to identify different types of economic effects that can be modeled using input-output tools. More specifically, the IMPLAN model provides estimates of the effects of the expenditures on income and employment that follow from direct, indirect, and induced expenditures (see Figure 32).

- **Direct effects** are the output, jobs, and income associated with the immediate effects of final demand changes. These are typically described as the "inputs" to the model.
- **Indirect effects** are production changes in backward-linked industries caused by the changing input needs of directly affected industries. Suppliers to the directly involved industry will also purchase additional goods and services; spending leads to additional rounds of indirect effects. Because they represent interactions among businesses, these indirect effects are often referred to as supply-chain effects.
- **Induced effects** are the changes in regional household spending patterns caused by changes in household income. The direct and indirect increases in employment and income enhance the overall purchasing power in the economy, thereby inducing further spending by households. Employees in these industries, for example, will

use their income to purchase groceries or take their children to the doctor. These induced effects are often referred to as consumption-driven effects.

-

Figure 32. Economic Effects Arise from Spending to Generate Total Economic Contribution



Source: ECONorthwest

Taken together, these combined economic effects (direct + indirect + induced) describe the total contribution to the regional economy from the TVRC. These effects are measured in terms of output, income, and jobs, which are defined as follows:

- **Output** represents the value of all goods and services produced from an event, and it is the broadest measure of economic activity.
- **Labor Income** consists of employee compensation and proprietor income, and it is a subset of output. This includes workers' wages and salaries, as well as other benefits such as health, disability, and life insurance, retirement payments, and non-cash compensation.
- **Jobs** are measured in terms of full-year-equivalents (FYE). One FYE job equals work over 12 months in an industry (this is the same definition used by the federal government's Bureau of Labor Statistics).

Although the facility will be built in Nyssa, not all of the initial expenditures are re-spent in the study region. Some spending leaks out of the economy from labor and construction expenditures that occur outside the primary study region. The approach utilized here does not capture these "spillover" effects but only includes the gross economic contribution to the Oregon counties in the study area.

Limitations of Input-Output Analysis

Input-output models are static models that measure inputs and outputs in an economy keeping prices and macroeconomic conditions fixed. With this information and the balanced accounting structure of an input-output model, an analyst can: 1) describe an economy at one time-period, 2) introduce a change to the economy, and then 3) evaluate the economy after it has accommodated that change.

This type of "partial equilibrium" analysis permits comparison of the economy in two separate states but does not describe how the economy moves from one equilibrium to the next. In partial equilibrium analysis, the researcher assumes that all other relationships in the economy remain the same (other than the initial economic stimulus).

Contrary to dynamic models, static models assume that there are no changes in wage rates, input prices, and property values. In addition, underlying economic relationships in input-output models are assumed constant; there are no changes in the productivity of labor and capital and no changes in population migration or business location patterns.

All production functions in the model are assumed to be linear and substitution effects are generally absent from input-output models. Although these simplifying assumptions can misstate the true effects on the economy of a project or policy, in situations the applications are relatively small, these models can produce a useful approximation.

Data Inputs

Two primary data sources are necessary to calculate the economic contribution of construction and operation of the TVRC to Oregon counties adjacent to the site.

Construction Costs

Preliminary construction cost estimates were provided by MCDC and are broken out by general category, including engineering, permitting, site improvements, wetland mitigation, reload building construction, rail improvements, and utilities (summarized in Figure 22). Where necessary, a set of assumptions were used to determine the proportion of expenditure that occurs outside the counties adjacent to the site, with rail infrastructure and associated specialized labor predominantly coming from outside the region. Figure 33 shows the construction cost inputs to the IMPLAN model. This is based on the costs summarized in Figure 22, adjusted to reflect several assumptions:

- Costs for railroad track were excluded since it is not produced or acquired within the study area. The analysis also assumed the labor used to install the track is specialized and comes from outside the study area.
- Equipment purchases required to operate the facility are included with construction costs, rather than operations costs, because they occur within the first three years of operation and are not associated with an annual expense.

Figure 33. Construction Costs

Construction Category	Amount
Engineering	$1,196,000
Permitting	$ 455,000
Site Roadways Layout, Utilities, Stormwater	$ 4,380,000
Reload Building	$6,758,000
Water Extension	$1,283,000
Exterior Road Improvements	$3,080,000
Eligible Rail Construction	$3,452,000
Facility Equipment	$499,668
Total	$21,103,668

Source: ECONorthwest using data from construction engineers

Operating Costs

Figure 34 summarizes the operating costs used to calculate the economic contribution associated with operating the TVRC. These are average annual costs, which occur each year the TVRC operates as described elsewhere in this proposal.

Figure 34. Operating Costs

Operating Category	Amount
Utilities	$30,554
Insurance	$12,731
General Property Expenses	$23,870
Wages and benefits	$1,235,893
Total	$1,303,048

Source: ECONorthwest

Results

Figure 35 and Figure 36 show the economic contributions of constructing and operating the TVRC. Construction contributions occur only during the construction period and cease once complete. Operational contributions occur every year that the facility operates.

The construction of the TVRC will support $18.1 million in direct output, $5.4 in direct labor income, and almost 150 direct jobs. Spending circulates through the local economy resulting in indirect and induced effects. Combined with the direct effects, construction generates a total of $23.7 million in output, $10.8 million in labor income, and approximately 200 jobs. Total direct output differs from total construction costs shown in Figure 33 because some of the construction spending occurs outside the study area. The analysis relies on default local purchase percentages built into the IMPLAN model. To the extent that actual project spending differs from these local averages, economic contributions in the study area may be smaller (less spending locally than average) or larger (more spending locally than average).

Figure 35. Economic Contribution of Construction Activities, 2018$

Impact Type	Output	Value Added	Labor Income	Jobs
Direct	18,187,189	8,149,463	5,463,735	148
Indirect	2,799,338	1,290,042	834,274	26
Induced	2,714,778	1,456,517	807,797	26
Total	23,701,305	10,896,022	7,105,806	199

Source: ECONorthwest

Operating the facility will support $2.1 million in output, $1.2 in labor income, and approximately 16 jobs every year. Summing the direct, indirect, and induced effects results in $2.7 million in total output, $1.4 million in total labor income, and 21 total jobs supported by the facility.

Figure 36. Economic Contribution of Operations, 2018$

Impact Type	Output	Value Added	Labor Income	Jobs
Direct	2,129,313	2,062,158	1,235,893	16
Indirect	95,737	47,405	12,737	0.4
Induced	518,691	277,918	154,652	4.9
Total	2,743,742	2,387,481	1,403,282	21.3

Source: ECONorthwest

[Insert Tab 9: Written Concurrence from Relevant Rail Entity]

9. Written Concurrence from Rail

BUILDING AMERICA®

September 26, 2018

Mr. Greg Smith
Officer of the Board
Malheur County Development Corporation
522 SW Fourth Street
Ontario, OR 97914

RE: Treasure Valley Reload Center Project, Nyssa, OR

Mr. Smith,

This letter is in regards to on-going conversations between our teams concerning the proposed Treasure Valley Reload Center Project at Nyssa, OR. The Union Pacific Railroad ("UP") has reviewed the preliminary rail layout (Project Schematic) for the Nyssa, OR reload center and industrial complex and finds the design conceptually acceptable. While UP cannot make a commitment on any specific commodity type nor level of service at this early stage, the UP looks forward to working with the Malheur County Development Corporation to further progress the project into formal design and examine potential commercial opportunities. The UP is excited by the eagerness of your staff as well as that of the community to develop a highly functional, rail-served complex in Eastern Oregon.

In the weeks ahead, the UP team desires to again meet with your staff and the community leaders to discuss next steps. We have much to discuss and the UP team is ready to engage your team and support staff immediately.

I look forward to hearing from you very soon.

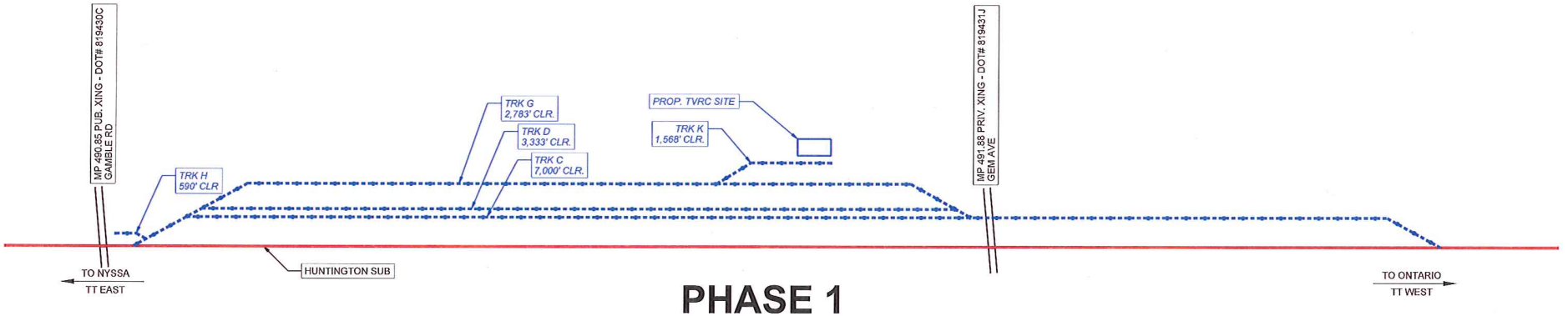
Sincerely,

Paul F. MacDonald
General Director - Network Economic & Industrial Development
Union Pacific Railroad Company

Ref: Project Schematic – Phase 1, RailPros Field Services, 08-23-2018

UNION PACIFIC RAILROAD
10031 Foothills Blvd
Roseville, CA 95747

TREASURE VALLEY RELOAD CENTER
MILEPOST 490.87 TO 492.61, HUNTINGTON SUBDIVISION
AUGUST 23, 2018



PHASE 1

DISCLAIMER
UPRR RIGHT-OF-WAY LINES ARE APPROXIMATE
AND ARE DEPICTED FROM ROW VAL MAPS

REV. #	BY	DATE	DESCRIPTION

PRELIMINARY
NOT FOR CONSTRUCTION

RAILPROS FIELD SERVICES
560 S. FORT LN. STE. #3A - LAYTON, UTAH 84041
www.railpros.com

FIBER OPTIC CABLE — CALL BEFORE YOU DIG 1-800-336-9193

STAMP

LEGEND:
- EXISTING MAINLINE TRACKAGE
- PROPOSED TVRC TRACK - PHASE 1
- FUTURE TVRC TRACK
- CONCEPT INDUSTRY TRACK RAIL PARK
- EXISTING PROPERTY LINE
- FIBER OPTIC CABLE
- PROPOSED PROPERTY LINE

DRAWN BY:	HH
CHECKED BY:	SM
FES NUMBER:	
DATE:	8/23/2018
SHEET NUMBER	1 of 2

FOR USE IN AGREEMENT WITH: **UNION PACIFIC RAILROAD**

LOCATION & DESCRIPTION:
MILEPOST 490.87 TO 492.61, HUNTINGTON SUBDIVISION
NYSSA, MALHEUR COUNTY, OREGON
TRACKAGE TO SERVE: TREASURE VALLEY RELOAD CENTER

SHEET TITLE:
PROJECT SCHEMATIC - PHASE 1

Color Tables: Y:\Microstation\CADD Standard (All Agency)\UPRR - Layton Office\Workspace\Standards\Tables\Color-UPRR.tbl
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8/23/2018

[Insert Tab 10: Regional Transportation Impacts]

10. Regional Transportation Impacts

Introduction

This section of the proposal provides a summary of preliminary engineering efforts related to analyzing the anticipated traffic resulting from the proposed TVRC project. The TVRC project will result in truck traffic in the Treasure Valley area being routed to the Zone D property for reload onto a unit train. An initial evaluation of the following items was completed as part of the initial traffic evaluation:

- Review of prior Traffic Impact Study for Nyssa industrial lands
- Traffic data on State Highway 20
- Current truck volume on State Highway 20
- Anticipated additional truck traffic due to the TVRC project
- Access options from State Highway 20 to the Zone D property
- Initial discussions with ODOT outlining the preferred means to access the Zone D property from State Highway 20
- Selection of the preferred site access option to most efficiently route truck traffic to the Zone D property while minimizing impacts to area residents

The items above are discussed in greater detail as follows.

2014 Traffic Impact Study and Proposed Traffic Study Update

The City of Nyssa completed a "Nyssa Industrial Lands Project, Traffic Impact Study" in 2014 to evaluate potential impacts from industrial development-related traffic in the Nyssa area. The study evaluated the area transportation system and its general capacity to handle reasonably expected industrial-related traffic that may result from development of the area's industrial lands. The traffic study included the industrial property referred to herein as Zones A, B, and C, just north of Nyssa. The Zone D property is just north of the Zones A, B, and C property, so the data and conclusions in the 2014 study are likely applicable to the Zone D property for the proposed TVRC project. A copy of the 2014 Traffic Impact Study is included in the Appendix.

The 2014 study concluded that with development of all the proposed industrial sites considered in the study, the area's transportation system will operate with sufficient capacity and at an acceptable level of service. The main conclusion, as it relates to the area transportation system, is repeated hereafter:

> *"Given the adequate available roadway capacity and forecasted favorable operation of the study area intersections, industrial development on the three sites will not significantly affect the surrounding roadway system as defined in the Transportation Planning Rule (TPR). The TPR is satisfied."*

The data summarized in this section is a preliminary evaluation of the area transportation system and its ability to handle the anticipated truck traffic that will result from the TVRC project. As the project design moves past the preliminary engineering phase and as refined truck traffic data are determined, an updated Traffic Impact Study will be completed to further ensure the assumptions outlined herein are valid for the proposed development.

Anticipated Truck Traffic

The TVRC project is anticipated to result in additional traffic use of State Highway 20 to route commodities to the site for reloading onto unit trains. Truck traffic will increase because of site development. Based on the demand analysis completed by ECONorthwest, truck traffic estimates are anticipated to range from a low of approximately 18 trucks per day to a high of approximately 166 trucks per day at peak periods. The wide range in anticipated truck

traffic is dependent on harvest periods. It is anticipated the industry will work toward levelling the shipping demands to better accommodate the new TVRC and unit train traffic.

As the anticipated truck volume data are further refined, an area Traffic Impact Study will be required prior to the project proceeding to construction. The additional study will help verify assumptions outlined herein.

State Highway 20 Current Traffic Data

ODOT's traffic data website was accessed to provide an initial determination as to the traffic counts on State Highway 20. As of September 2018, the following data is available for State Highway 20:

- Annual Average Daily Traffic (AADT): 3,800 vehicles
- Truck percentage: 13.43 percent
- Truck AADT: 510 trucks

Typical capacities for a two-lane road like State Highway 20 is well above the above daily traffic counts. Traffic manuals show that similar roads can handle nearly 3,200 vehicles per hour, whereas State Highway 20 is currently at approximately 3,800 vehicles per *day*. The above data show that State Highway 20 is well below the typical capacity for a highway of similar characteristics. State Highway 20 appears to have considerable capacity to handle additional traffic loads.

Earlier, the minimum and maximum anticipated truck traffic impacts due to the TVRC project are anticipated to be 18 trucks per day and 166 trucks per day, respectively. These anticipated impacts, when compared to the current truck traffic on State Highway 20, represent an increase of approximately 33 percent at the peak demand estimates. As stated earlier, State Highway 20 appears to have plenty of capacity remaining to handle this anticipated increase in truck traffic. Additional analysis is warranted to confirm these assumptions. The additional traffic impact analysis should occur concurrently with the design engineering work for the TVRC project.

Site Access Options and ODOT Involvement

During initial development of the potential site layout, site access alternatives were also evaluated. The proposed TVRC site (Zone D property) is 1 mile long (north to south), with Gem Avenue bordering the site to the north, and Gamble Avenue bordering the site to the south. Arcadia Boulevard is adjacent to the Zone D property all along its west boundary. Arcadia Boulevard runs north/south, parallel to State Highway 20, which is located approximately 0.5 mile west of the site.

To evaluate potential site access options and their impacts to area residents, three options to access the Zone D property were developed, as follows. These options are shown on Figure 10-1, Zone D Property Site Access Options.

- **Option 1 – New Access Road**. This option would involve constructing a new access road from State Highway 20 due east to Arcadia Boulevard, crossing Arcadia Boulevard directly into the midpoint of the Zone D property. Improvements to State Highway 20 will be required to accommodate the increased truck traffic, likely consisting of acceleration and deceleration lanes, and a center turn lane.

- **Option 2 – Columbia Avenue and Arcadia Boulevard.** ODOT recently completed improvements to State Highway 20 to accommodate truck traffic exiting and entering State Highway 20 from Columbia Boulevard. These improvements included deceleration and acceleration lanes, and a center turn lane to accommodate industrial related traffic into current industrial zoned properties. This option is likely able to serve the site as it currently exists.

- **Option 3 – Gem Avenue**. Gem Avenue is a narrow two-lane road extending from State Highway 20 to the north end of the Zone D property. This option would require improvements to State Highway 20, likely consisting of acceleration and deceleration lanes, and a center turn lane. Improvements to Gem Avenue would also be required. The State Highway 20 improvements will be difficult due to the presence of residences very close to the right-of-way at this intersection.

A meeting was held with ODOT Region 5 personnel on August 8, 2018 to discuss each potential access option to the Zone D property. ODOT personnel present at the meeting included:

- Craig Sipp, ODOT Region 5, Manager
- Ken Patterson, ODOT Region 5, Eastern Area Manager
- Paul Woodworth, ODOT Region 5, District 14 Manager
- Don Fine, ODOT Region 5, Traffic Coordinator

Each option was discussed in detail, with the pros and cons of each option presented and discussed. The pros and cons are discussed in the following section. ODOT indicated, based on the preliminary data presented at the meeting, that Option 1 (new access road) is their preferred option as it will provide the most direct access off State Highway 20, will result in the simplest means to improve Highway 20, and will create the least impact to area residents.

Comparison of Options

Three options for truck traffic access to the proposed Zone D property for the TVRC have been presented herein. Option 1 is preferred by ODOT as well as the MCDC for access from State Highway 20 to the Zone D property for the TVRC project. The pros and cons of each option is summarized hereafter.

Option 1 – New Access Road

Pros

- Most direct access to the Zone D property
- Least residential impact
- Easiest option for needed improvements on State Highway 20 (right-of-way readily expanded)
- Preferred by ODOT

Cons

- Likely the most expensive option
- Requires new land acquisition
- Requires a goal exception for conversion of land to a roadway

Option 2 – Columbia Avenue and Arcadia Boulevard

Pros

- Utilizes an existing road
- State Highway 20 recently improved to accommodate truck traffic
- Likely the least cost alternative
- No land acquisition needed

Cons

- Longest trip to the site for southbound traffic on State Highway 20
- Least direct route to the Zone D site
- Not as efficient for site access

Option 3 – Gem Avenue

Pros

- Fairly direct route to the Zone D property from State Highway 20
- Efficient access to the Zone D property

Cons

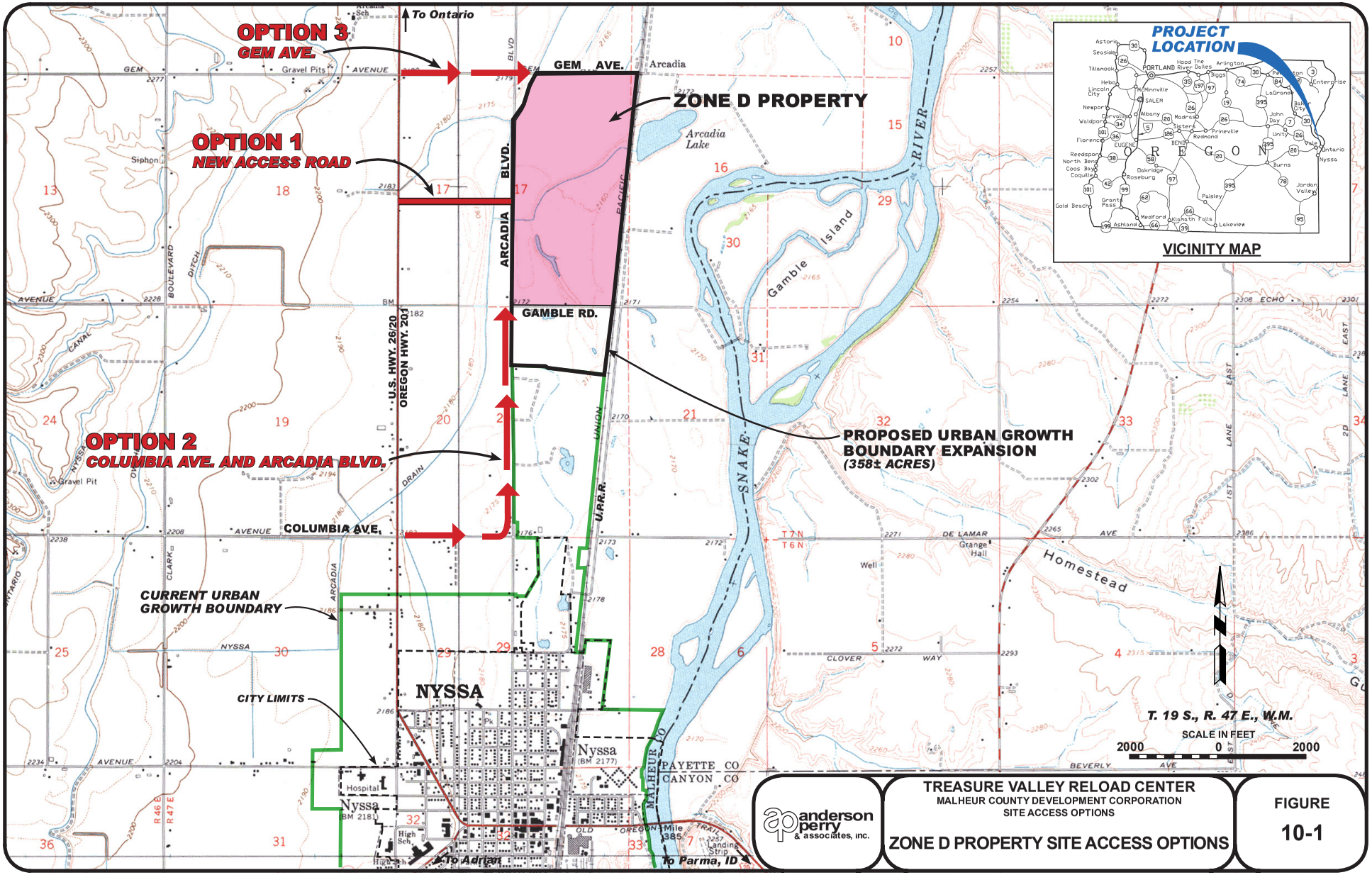
- Residential impacts at the State Highway 20 intersection will occur
- Very difficult State Highway 20 modifications due to area residences and a lack of sufficient right of way
- Improvements to Gem Avenue are likely needed
- Land acquisition will be needed
- Higher cost option

Conclusions

Based on the preliminary analyses completed for area traffic patterns and the anticipated impact of the TVRC project, the following conclusions have been made:

- The area transportation system (primarily State Highway 20) has the capacity to handle the anticipated additional demands imposed on the area due to the TVRC project.
- Three Zone D site access options are available, with the preferred option being the most direct route from State Highway 20 to the site.
- The preferred Zone D access option will result in the least impact to area residents
- Additional traffic impact analyses should be completed to verify the assumptions outlined herein.

As stated above, additional traffic impact analysis is necessary to confirm the assumptions herein. This analysis will be competed concurrently with the continued design effort for the facility. The additional analysis will also evaluate potential transportation-related impacts to the greater surrounding area as a result of the TVRC project.



anderson perry & associates, inc.

TREASURE VALLEY RELOAD CENTER
MALHEUR COUNTY DEVELOPMENT CORPORATION
SITE ACCESS OPTIONS

ZONE D PROPERTY SITE ACCESS OPTIONS

FIGURE 10-1

Job# 1199-680-021 Sep. 21, 2018 lbauer

[Insert Tab 11: Expected Useful Life of Project]

11. Expected Useful Life of Project

NICHOLS
The Nichols Accounting Group, P.C.
Certified Public Accountants

September 25, 2018

Malheur County Development Corporation
Att: Greg Smith
522 SW Fourth St.
Ontario, OR 97914

Dear Greg,

We are providing this letter in conjunction with your request regarding the useful lives of certain capital assets related to the Treasure Valley Reload Center. This is derived based solely on our experience with clients in our area. The lives below are presented as a range because not every asset has a useful life that is a one-size fits all:

Asset Description	Estimated Useful Life Range
Commercial Buildings	35-40 years
Railroads	45-50 years
Vehicles	3-5 years
Equipment	5-10 years
Real Property Improvements	10-25 years
Office Furniture & Equipment	3-7 years

If you have questions regarding this information please let me know and we appreciate being able to work with your organization.

Sincerely,

Michael Flerchinger, CPA

Michael Flerchinger, CPA
The Nichols Accounting Group, P.C.

230 N. Oregon Street
P.O. Drawer 99
Ontario, Oregon 97914
Phone: 541.881.1433
Fax: 541.881.1444

[Insert Tab 12: Project Schedule and Milestones]

12. Project Schedule and Milestones

Schedule

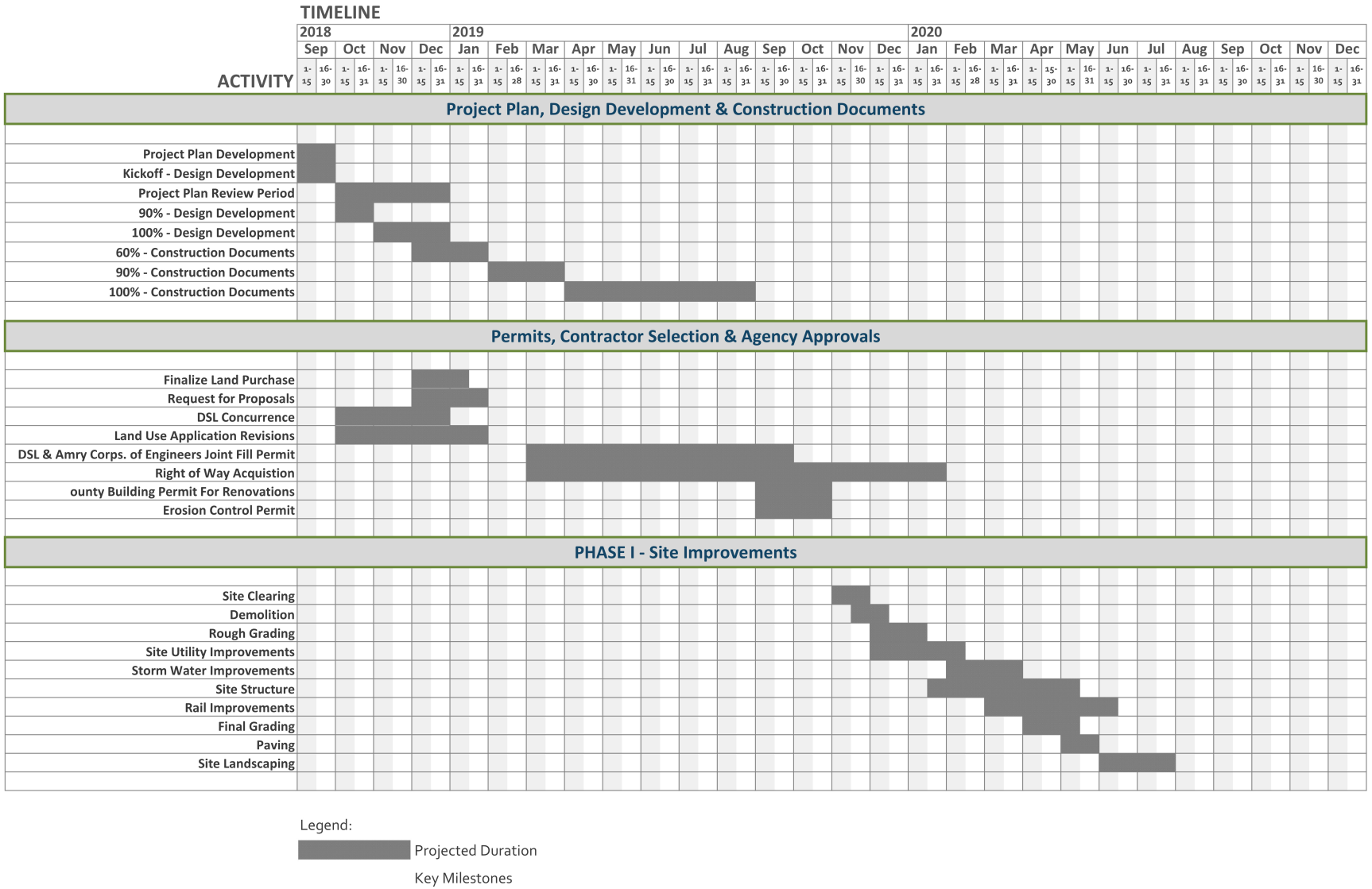
Construction of the TVRC project is scheduled to begin in late 2019.. The following project schedule has been prepared assuming design engineering can proceed in earnest starting in January 2019. January 2019 is the start date for design engineering assuming the Project Plan approval by the Oregon Transportation Commission and the agreement with the Commission and the MCDC, in accordance with OAR 731-035-0065, will occur by January 1, 2019.

A copy of the project schedule is included at the end of this section.

Milestones

- September 27, 2018: Project Plan Submission
- January 1, 2019: Project Plan Approval and Agreement Approval
- August 31, 2019: Construction Documents Completed
- November 1, 2019: Phase I Construction Begins
- July 31, 2020: Phase I Construction Substantially Complete

PROJECT SCHEDULE: Treasure Valley Reload Center



[Insert Tab 13: Written Demonstration of Project Support]

13. Written Support by Public Agencies

Gateway to the Oregon Trail
Nyssa, Oregon
1903
Thunderegg Capital of the World

City of Nyssa

301 Main Street
Nyssa, OR 97913
Phone: 541-372-2264
Fax: 541-372-3737

09/04/2018

To Malheur Economic Development and Reload facility board

It is great excitement that I write this letter, the importance of the Reload facility to our county is monumental. We as a city would be very happy to see it built close to our community. The impact it would have on our continued growth would be great. We look forward to working with all those involved with the project and want to give our full support and any help that is needed. I realize that there can only be one site hopefully it is the site nearest Nyssa, however if it is not you can count on my support and help in any way.

Thank You

Jim Maret, City Manager

The City of Nyssa is an Affirmative Action/Equal Opportunity Employer

County of Malheur

251 'B' STREET WEST • VALE, OREGON 97918

MALHEUR COUNTY, OR 2017-4517
MRCOUNTY COURT
DOCUMENT 11/29/2017 11:23 AM
Cnt=1 Pgs=1 Total:$0.00

00046511201700045170010015

I, Gayle V. Trotter, County Clerk for Malheur County, Oregon certify that the instrument identified herein was recorded in the Clerk records.
Gayle V. Trotter - County Clerk

November 29, 2017

Oregon Transportation Commission
355 Capitol St. NE, MS #11
Salem, OR 97301

Re: Letter of Support – Malheur County Development Corporation's Treasure Valley Reload Project Proposal

Commission Members:

The Malheur County Court (Board of Commissioners) fully supports Malheur County Development Corporation's (MCDC) Treasure Valley Intermodal/Reload Facility project proposal.

Natural resource-based industry dominates Malheur County's economy. The ability to move our commodities to both domestic market in the east, as well as west to international markets is of the utmost importance. The MCDC project proposal recognizes this economic factor and provides opportunities to transfer the shipping of the commodities mentioned above from truck to rail, and even from truck to rail to marine. This will help simplify logistical challenges our business and industry face. The ability to have alternative modes of transportation results in improved economic advantages for Oregon companies.

The MCDC board went through a robust site selection process, and we fully support their decision. The site is a central location within the Treasure Valley. This will maximize the benefit of the facility. The site also has access to all the primary highways in the region, and over 1-mile of the UPRR main line along the property line. The UPRR industrial development team visited Malheur County and the site with the MCDC board members. They shared the location would be suitable for the desired purpose.

Malheur County stands ready to support the project through whatever needs arise. We urge your approval of the MCDC project proposal.

Best Regards,

Dan Joyce, Judge
Malheur County

Don Hodge, Commissioner
Malheur County

absent

Larry Wilson, Commissioner
Malheur County